ANCIENT PAKISTAN - AN ARCHAEOLOGICAL HISTORY

Volume V: The End of the Harappan Civilization, and the Aftermath

MUKHTAR AHMED

Ancient Pakistan

An Archaeological History

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The End of the Harappan Civilization, and the Aftermath

Foursome Group
Ancient Pakistan - An Archaeological History
Volume I: The Stone Age Volume II: A Prelude to Civilization Volume III: Harappan Civilization - The Material Culture Volume IV: Harappan Civilization - Theoretical and the Abstract Volume V: The End of the Harappans Civilization, and the Aftermath

ISBN: 13-978-1499709827
10-149970982X

Title: ***Ancient Pakistan - An Archaeological History,***

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Author: Mukhtar Ahmed Publisher: Foursome Group Fist Published: 2014

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Foreword to *Ancient Pakistan – An Archaeological History*



Politically, Pakistan is a new state. Historically, however, its outlines can be traced back to at least 50,000 years. Pakistan is an Islamic state but culturally it is byproduct of a multitude of historical processes, of which Islam is only the most recent component. These

historical processes were primarily the result of geographical and geological features of the land, which have shaped not only her history but prehistory as well. Through these processes, this piece of land, irrespective of its names and political configurations at differing times, emerged as a distinct cultural entity at a very early stage and, as such, it deserves a historical treatment separate from India and separate from Central Asia. This book, spread over five volumes, is a partial answer to this need.

In undertaking this work, I have been all too aware that ultimately this exercise bore upon the existence of Pakistan from the very early times as a unique geographical and cultural reality, of which the Indus Civilization was only one of the several manifestations that are known to the general public. This reality, long ignored, is indeed a cornerstone of the present work. As the reader proceeds with the narration, he or she realizes that age by age, period by period, region by region, cultural traits are born, grow, and change as they interweave with other traits and form institutions, social behavior, cultural values, and technological bases that together make up the prehistory of Pakistan. In this process, the reader also realizes that this history is quite different from that we come across in the east of the Indus Valley or to the north and the west of the Hindu Kush Mountains.

Pakistan has been an area of intensive archaeological research for over a century. In recent times the pace of this research has increased manifold, and despite some major unknown areas, we have reached a stage of knowledge where it is possible to offer a connected account of the prehistory of this land primarily, if not exclusively, on the basis of archaeology. The present work aims to do that. It is, however, much more than a compendium of archaeological data of ancient time, bringing out, as it does, the flow of Pakistan's grass-root archaeological history in all its continuities and diversities.

It is an attempt to sum up the heritage of the remote past of this vast and in so many ways a unique region to which we owe our present e'lan in South Asia. It has twofold ambition, to embrace the remote past of the Greater Indus Region, now called Pakistan, in its entirety and to sum up all that we

know about that past at the present time. It adopts an intellectual approach that is more interpretative than descriptive, placed in a universal frame of reference. Pakistan's history and prehistory has been traditionally told in context with "India" or the Indian subcontinent, often termed as South Asia; this book parts company with its predecessors on several essential points. In the first place, it deliberately confines itself to shedding light on only one geographic area of South Asia rather than attempting to search for some kind of elusive unity in clearly diverse region. Secondly, it concentrates on the history of cultural development rather than on events.

Beginning with the first stone tools in Pothwar in the north of Punjab, the book traces the archaeological history of this land and examines the multiple strands of cultural development that weave the prehistory of this country all the way to its early historic foundations. Among other things, it discusses the basic significance of the prehistoric studies of the Greater Indus Valley, the variegated pattern of the beginning of human existence in Pothwar through the course of the Ice Age; the beginning of agriculture and village life in Baluchistan and western Sind; the evolution of a prehistoric high culture that came to be known as the Indus or Harappan Civilization; the examination of the possible causes of the decay and demise of the Indus way of life and its transformation into a culture which, for lack of any other suitable name, we must refer to as the Vedic transformation. This material has been arranged as follows:

Volume I: *The Stone Age:* This volume deals with the question of the early hominins that populated this land in the remotest past, the stone tool technologies and their transformation with time, and the direction that these traditions were setting for the coming agricultural revolution. Chronological;lie, this volume covers the time period from *ca.* 2 million BC to *ca.* 10,000 BC.

Volume II: *A Prelude to Civilization:* This volume essentially covers the beginning of agriculture and animal domestication in Pakistan, development of farming villages, and the evolution of the Early Indus cultures throughout the Greater Indus Valley, along with the concomitant changes in artifactual technology, the pottery, the art, and the subsistence practices. It leaves the Indus man at the doorsteps of an urban society, namely, the Indus or the Harappan Civilization. This volume covers a time period between ca. 10,000 BC to 2,500 BC.

Volume III: *Harappan Civilization - The Material Culture.* As the title implies, it covers the rise and fall of the material culture of the Harappan Civilization. This volume covers the time period between *ca.* 2,500 BC to 1,800 BC.

Volume IV: *Harappan Civilization - Theoretical and the Abstract.* This volume deals with a few theoretical and abstract issues, such as the language and the script, the religion, the social organization, and the nature of the Harappan state, etc, which could not be dealt in other volumes. Like Volume III, this volume also deals with the time period between ca. 2500 BC and 1800 BC.

Volume V: *The End of theHarappan Civilization, and the Aftermath.* This volume deals with the decay and demise of the Indus Age, the examination of of the various degenerated local cultures that replaced the Harappan Civilization, causes and enabling factors assigned to this decay, and the problem of the advent of the IndoAryans in the greater Indus Valley. This material is connected with the time period between *ca.* 2000 BC and the middle of the first millennium BC.

These five volumes cover an immensely long period of time and encompass a large set of archaeological data. A certain level of previous knowledge about the subject is needed to fully

comprehend the material evidence and appreciate the bases of interpretations.This background knowledge is briefly covered in the respective volumes to render them independent readings. For those who would rather start with firmer footings or for those who would like to explore the relevant topic somewhat further, an extensive Bibliography has been attached to each volume.

Given the extraordinary discoveries of human fossils in Africa, the fascinating finds of cave art in Central India, superb specimens of stone tools in Western Europe, and the antiquity of agriculture in the Fertile Crescent, one may wonder, why study the Stone Age record of Pakistan at all? The simple answer is that Pakistan has its own remarkable finds, and it has an archaeological record that rivals in richness those in better known regions of the world. The more complicated and important reply, however, is that Pakistan has a distinctive early archaeological record that challenges many of the models and theoretical frameworks that have emerged on the basis of findings made in other regions. It provides the opportunity to reevaluate, refine and in some cases revise a number of major conclusions concerning our evolutionary history, including the evolution of man; the emergence of modern human behavior; the beginning of sedentism and agriculture; the emergence of social complexity and urbanization; and constantly confronting the problem of incursions by barbarian argo-pastoral intrusions, which kept this land politically out of balance throughout its history but at the same time benefited it with new blood, new ideas, new socio-economic systems, new religious thoughts, and much more.

Pakistan is of course not just of interest to archaeologists. It is a land of incredible cultural, linguistic, ethnic, and genetic diversity, and its contemporary populations have constituted the focus of a wide range of disciplines, including anthropology, linguistics, history, and population genetics. In these disciplines too, Pakistan has much to offer in terms of general theoretical models and frameworks. Indeed a number of noteworthy studies in the ancient past of Pakistan has been undertaken in the past fifty years or so, taking advantage of the progress made in the disciplines of geology, archaeology, anthropology, linguistics, population genetics, ethnography, biological sciences, sociology, and the like. All of these research areas, however, suffer from two key problems. One is their isolation and lack of engagement with other disciplines investigating this geographical area. The other is the almost universal convention of studying Pakistan as a part of “India”.

This volume constitutes a bold attempt to bring together a variety of these disciplines in the study of Pakistan’s ancient past and to study this region in its own right, not as a part of some hypothetical “India”, nor a part of some nebulous “Central Asia”. This is, of course, a huge undertaking and no one person, no matter how great his or her capabilities, can be expected to do it a justice. Thus, *Ancient Pakistan* can only be viewed as the beginnings of what is hoped will be followed by other more scholarly treatment of the subject.

The term ‘Pakistan’ is a political designation, meant to describe an area containing the modern nationalities of Punjabis, Sindhis, Baluchis, Pashtuns, Kashmiries, Makranis, Muhajirs, Hazaras, and a whole number more. Pakistan is a large landmass, measuring almost a million square kilometers in extent and is the second largest of the seven countries that make up the South Asian region, India being the largest. It is the sixth most populous country in the world. The size of the landmass in itself suggests that there is much to be gained from examining the history of human geography, including population dispersals, cultural interactions of various ages, and deciphering the overall trajectory of human evolution in this unique region.

Pakistan presently contains nearly 180 million inhabitants. The people in this landmass speak at least 25 different languages although almost all of them belong to one single family of languages, the Indo-Iranian. The linguistic diversity of Pakistan is matched by a wide and impressive cultural, tribal, and genetic diversity. For example, here one encounters “African-looking” people (the Makranis) on one hand and distinctly “Mongol-type” population (the Hazaras) on the other. In recent years, geneticists have been particularly enthusiastic about tracing the history of various Pakistani populations, linguistic groups, cultural and regional ‘nationalities’, and anatomically distinguishable endogamous groups, through mapping their genes and making connections with other world populations. These methodologies and results have been published in journals of diverse disciplines and their tempo seems to be increasing in reader will find references works as we proceed with our account in respective volumes.

The *Ancient Pakistan* has been written on historical principles, beginning with the discovery of stone tools of the early hominids in the Pothwar Plateau two million years ago and culminating at the end of the Harappan Civilization some 1500 BC. It is not a linear story but efforts have been made to make it as streamlined as possible. The principal topics in all volumes are mainly dealt with from the perspective of archaeology, aided by anthropology, along with a sprinkling of geology and population genetics. There are several reasons for approaching the ancient history of Pakistan in this way, the most important of which is that there is a dire need for such a narration and no major exposition of this nature so far exists. Secondly, this kind of narrative allows one to present and discuss a range of opinions on the various subjects that are pertinent to the study of ancient lands.

The approach taken here is also a geographical one. This is something that plays an essential part in understanding the regional character of Pakistan’s cultures throughout the changing times of the past and its fundamental quality of diversity. The character of Pakistan’s changing cultures is as distinct as that of Europe, for example. Like Europe, it comprises a number of cultural and linguistic entities, the composition of which has changed continuously through its long history. One of the distinctive features of Pakistan’s cultural history is the way in which it has encapsulated human communities of diverse nature at many different cultural and technological levels, allowing them, to a large extent, to retain their identity but still making it possible to establish inter-community relationships.
recent years. The to these research

These characteristics have given the peoples of Pakistan in prehistory a peculiar flexibility and adaptability of their own. It is evident from a variety of prehistoric data that in changing circumstances the people had within themselves the means, and the intellectual reserves, to deal with the often catastrophic problems that arose in the unpredictable environment of the region. The history has shown that when one means of survival became impossible there was always another.

The basic premises of this work are three. First, it is a fallacy to portray the Indian subcontinent of antiquity as a single geographical and cultural unit of which ancient Pakistan is supposed to have been a part. Archaeological evidence is overwhelmingly against such a proposition. Even a cursory look at the archaeological data would show that the region that is now known as Pakistan always remained shy of India, namely the area that lies beyond the Great Indian Desert, but has had considerable affinity, both cultural and genetic, with Central Asia. Second, ancient Pakistan, consisting essentially of the Indus plains and the surrounding hills and plateaus, started to develop as a culturally interrelated region right from the Stone Age. The large bank of stone artifacts, the nature of lithic technologies, and the newly accumulating genetic data, stand witness to this proposition. This was, of

course, the result of its peculiar geography, which provided it with a wall of mountains to its west to separate it from Cen

In fact, the world known to the inhabitants of ancient Pakistan was the world more to its West than to its East.

tral Asia, and a formidable desert, the Thar, to its east to separate it from the rest of the Indian subcontinent. Third, ancient Pakistan did not exist in isolation; from the very beginning, it was either a part of the known world or its past can be better understood in context with the prehistory of the known world. This world is by no means confined to "India" or the Indian subcontinent in general but extends long distances to the West. In fact, the world known to the inhabitants of ancient Pakistan was the world more to its west than to its East.

Starting from these working hypotheses, I have attempted to indicate the nature and succession of various cultures, which determined the early development pattern of this land. The evidence is generally archaeological in nature, but, as stated earlier, other disciplines, such as population genetics, linguistics, geology, anthropology, etc., also play their respective role. The geographic area discussed comprises the region within the approximate boundaries of the presentday Pakistan – from the Indo-Gangetic Divide to the Khyber Pass, from the foothills of the Himalayas to the coast of Makran, from the current IndoIranian borders to the Runn of Kutch, from the Gomal Pass to the dry bed of the Ghaggar-Hakra River at the edge of Cholistan, and from the rugged hills and valleys of Baluchistan to the vast desert of the Thar. The area between the Ravi and the Sutlej/Beas, although not within the current boundaries of Pakistan, is included as, geographically, it lies within the Valley of the Indus and has therefore been a part and parcel of the Indus cultures in the past. Similarly, a sliver of coastal land in Kutch, essentially the Indus delta, is also included although current political boundaries exclude it.

The superficial observer would sneer that India has had some episodes but no history, and ancient Pakistan and Central Asia had neither episodes nor history. This skepticism is used to justify lack of study and an absence of interest in the ancient past of Pakistan on the part of scholars. It is also used to justify the relegation of this land to a status of the Indian hinterland unless forced by overwhelming archaeological evidence to mention it separately as "northwestern India". It is further used by the intelligentsia of Pakistan to justify the beginning of Pakistan's history with the invasion of Muhammad Bin Qasim, or those of Ghouri, Ghaznavi, and the like at best and with the inception of the Muslim League at worst.

The considerations that follow will show that the absence of episodes does not necessarily negate the existence of history. Judged by the standard of time, this region was thickly populated from the very early times of human existence and these human beings have left a heavy trail of footprints on the sands of time. All we have to do is to reconstruct a history without episodes, which means that it cannot be the same type of history as we are generally familiar with through our school textbooks. The present series of books is a small step in that direction.

Essentially, this work is a narration of the story of the Indus man in his remote past, his struggle for survival, his ingenuity, his accomplishments, his failures, and his capacity to endure. At the end, it is an attempt to dislodge the student of history from the traditional timeline of Pakistan's history and focus his or her attention on its very beginning. It is hoped that this effort will help the reader in thinking about Pakistan as a land of antiquity instead of looking at it only in terms of Muhammad Ali

Jinnah, the Muslim League, the Partition of British India, or the play

At the end, it is hoped that this effort will help the reader in thinking about Pakistan as a land of antiquity instead of looking at it only in terms of Mohammad Ali Jinnah, the Muslim League, the Partition of British India, or the playground of various military and civil despots since then.

ground of various military and civil despots since then.

I have tried to rearrange the available archaeological data in such a way that a comprehensible story of Pakistan's ancient past could be told in context of Central Asia as well as that of the subcontinent. In doing so, if I have been able to wean the reader away from a purely Indocentric point of view of history and redirect his or her attention to the area of Baluchistan, Sind, Punjab, and the Pashtun country itself and do so with reference to Central Asia and Iran with which this land has had a long-standing historical and cultural relationship, I must consider this whole effort worthwhile.

This is, obviously, a radical change in perception and dissenting voices will definitely be heard. Since it is an unconventional approach and

since this point of view is being advocated here with some vigor and enthusiasm, it is inevitable that a great deal of technical detail had to be included. By the same token, if the reader detects a sort of missionary zeal in the book, it is inevitable, in fact necessary; it is the very *raison d'etre* of the present work.

One needs patience and a degree of perseverance for reading books on prehistory, archaeology, and anthropology (and now, on archeogenetics) in spite of the initial aura of romance associated with the subject. However, the reader who sticks to the task may find gratification and great satisfaction in sensing, as the author does, the heroic struggle of man to survive, his endless adaptation to the changing environment, and his compulsion or genius for material progress. The story of the early man who inhabited ancient Pakistan is particularly interesting; the presence of human ancestors in the northern Pakistan some two million years ago, their continued adaptation to the radically changing environment, their technological dexterity, as shown in the fashioning of their intricate stone tools, and their artistic abilities as are apparent from the exquisite paintings on pottery, is an intriguing story in itself.

The extraordinary contribution of the Indus people to the development of agriculture and animal husbandry in the foothills of Baluchistan has not yet been told fully but it has recently started to come to light, albeit grudgingly and albeit hesitantly. The remarkable acumen for city and town planning of the Harappans speaks volumes about their vibrant culture; their spirit of venture on the high seas still resonate in the word *Mallah* (the Sailor) which is evidently a derivative of the *Meluhha* by which the Mesopotamians knew the Indus people in the third millennium BC; their composition of religious hymns (the *RgVeda*) is undoubtedly the first; and their contribution to the development of Sanskrit and its vast literature is legendary. All this must make an interesting story.

The idea for undertaking this project principally stems from that towering archaeologist of India and Pakistan, Sir Mortimer Wheeler (*Five Thousand Years of Pakistan*, *Indus Civilization*, among others). Additional inspiration comes from Aitzaz Ahsan's *The Indus Saga,* which in effect is a half-hearted

appeal for looking at the history of Pakistan in its own right rather than as an appendix to the history of "India". The process of gathering together material, planning and writing this book imitate Yahya Amjad's book *Tareekh-ePakistan - Kadeem Daur.*

This book has not been written for fellow historians; its audience is the inquisitive student of history who is interested in looking into Pakistan's ancient past in some detail. The book is also intended for the general reader with an interest in the cultural history of Pakistan, and how it came to be as it did. It may also perhaps be useful to the student embarking on the study of South Asian archaeology or ancient history of this region. It is emphatically not a compilation or compendium of available information; nor does it claim to be comprehensive at the level of theory or ideas within the fields it touches. What I have tried to do is to tell as coherent a story as is possible at the present time, of the development of human life and culture within the region that lies between the Hindu Kush Mountains and the Thar desert, indicating the main trends, principal motivating factors and important turning-points, as we see them on the long road from the earliest toolmakers, over two million years ago, to Early Historic times in the early centuries B.C.

I am aware that what is known today about the remote past of this land is so tentative and fragmentary that it can be critiqued for not managing the subject in a way that comes to approaching completeness or definitiveness. This is, obviously not possible at this stage or anytime soon. Future research will definitely add more details to the subject and the interpretative approaches will surely keep on changing.

Finally, and most importantly, it must be stated and explicitly acknowledged that *Ancient Pakistan* is a synthesis of a large number of excellent writings by world-renowned archaeologists, prehistorians and scholars of related disciplines around the world. Since it is a synthesis, no originality is claimed. My job has been nothing more than putting in order the available information widely spread out in various books and monographs as well as original archaeological reports and research papers. Some of these writings have been extensively reproduced here without putting them in quotation marks, generally giving specific reference to their origins but sometimes, inadvertently, of course) without. However, most of these sources have been listed in the references at the end of each chapter or section. The same applies to various figures, photographs, drawings, and sketches. My gratitude to all these researchers and scholars is, of course, due and I am deeply indebted to all of these authors and publishers.

M.Ahmed

Preface



The Indus Civilization flourished for around five hundred years, in some places as long as seven hundred years. In the early second millennium BC it started to wilt and within a century or two came to an end. This process was marked by the disappearance of the features that had distinguished

the Harappan Civilization from its predecessor cultures: writing, city dwelling, some kind of political control, regional and international trade, occupational specialization, and widely distributed standardized artifacts. Local materials started to be used for objects like stone tools, and the cultural uniformity of the Indus Tradition gave way to a number of regional groupings, often using material reminiscent of that belonging to the pre-urban phase in each area. There was considerable depopulation in the Indus heartland although settlements increased in number in Gujarat and the Divide. International trade almost came to a halt although the distribution of many cultural elements (such as features of ceramic form and decoration, and distinctive stamp seals) indicates that there was still some interregional communication, and movements of individuals and groups both within the Indus region and between it and the regions to its North and the West.

Early in the second millennium BC, by about 1800-1900 BC, the city of Harappa was no longer a functioning urban center. At Mohenjodaro, the last period of occupation of the city shows a serious decline in civic standards, with poorly constructed houses, pottery kilns in what had previously been residential areas, the neglect of civic amenities such as drains, and corpses thrown into abandoned houses or streets instead of being buried with due rites. Important public buildings such as the Great Bath went out of use. Some stone sculptures were deliberately broken.

A similar situation is known in many other cities and towns, some of them were abandoned altogether. The central region saw a massive reduction in the density of settlement, and, throughout the greater Indus region, the majority of settlements were villages and campsites, with a few small towns. Writing was no longer used, though occasionally signs were scratched as graffiti on pottery. Cubical weights became rare or ceased to be used, indicating that metrical controls were no longer needed. Shells from the coastal regions no longer made their way to the northern sites, and lapis lazuli from the North failed to reach the sites in the plains and long cylindrical carnelian beads, and sturdy red pottery in a set of recognizable shapes among other features - cease to appear in the archaeological record of the centuries between about 1900 and 1700 BC. The distinctive pottery with ritual motifs and Indus script and traditional square seals with unicorn and other animal motifs disappeared. In Mesopotamia the texts that had recorded ongoing trade with a region called Meluhha, which is most probably the Indus Valley, no longer mentioned it.

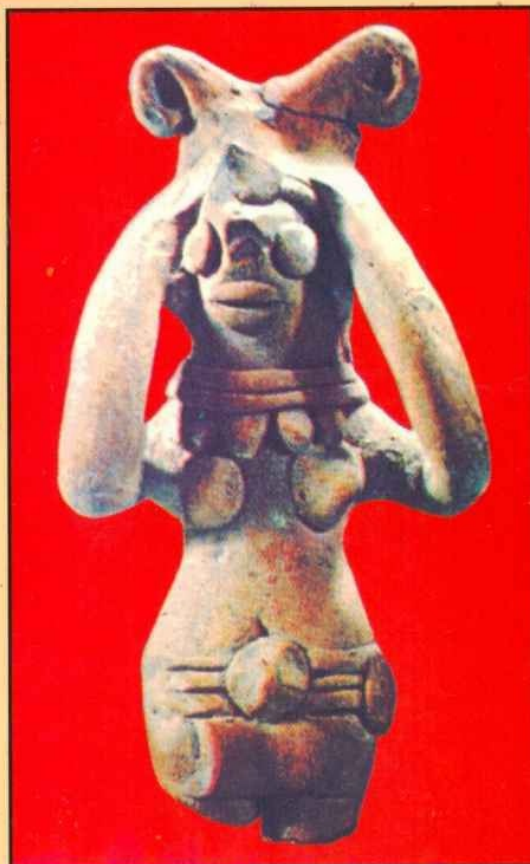
What happened? There is no one answer to this question and the issue is still being debated. In the meantime, what can we say is as follows: The Indus civilization arose as a social, economic and cultural phenomenon, produced by the build-up of population on the fertile Indus plains and the hilly slopes of the surrounding areas in the west. The resultant urban society was a delicate balance of internal relations between cities, towns and villages, and of external relations with neighboring peasant and pastoral societies and more distant urban cultures. The end of the Indus urban phase was probably triggered by some major upset of this balance. Such an upheaval could have been produced by any one or more of the causes one can imagine, operating either alone or in combination. In other words, just as the creation and maintenance of the system was the outcome of the successful combination of several factors, so too its breakdown could have been caused by the weakening of any one of these or the upsetting of their harmonious balance and interaction. Whatever they may have been and what from our point of view is of primary concern, it is obvious that at a certain point in time the urban phenomenon came to an end. There is no use in calling it a ‘transformation’ as some of our recent archaeologists are prone to do (1,2,3). Civilizations arise; they also fall and come to an end. So was the Harappan Civilization or the whole Indus Age (4).

The Harappan Civilization collapsed but we should not assume that all aspects of life associated with the Harappan culture came to an end. The aspects related to the urban living did

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Shereen Ratnagar

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disappear, but others, connected with basic subsistence practices or agricultural technologies seem to continue. Those social institutions that were created to forge ties between non-kin and between distant settlements crumbled but the remnants of the tribal institutions that we note in the pre-urban cultures chaeological studies, changes in the terminal phase of the Harappan Civilization is an interesting subject, so is the musing about the non-urban regional cultures that replaced this splendid civilization. The speculation on the causes of the decay and demise of the Harappan Civilization - asking the question: What happened and Why - is even more interesting exercise. Related to the end of the Harappan Civilization is the question of the Indo-Aryans who started ingress the Indus Valley as the Harappan urbanization started to wilt and ultimately came to an end. Of course, the speculations on the legacy

of the Harappan c u l t u r e a n d i t s shadow on the development of later cultures of Pakistan and India loom large. This book deals with these topics in some essential details.
The Indus was not the only civilization that perished after a substantial period of thriving existence; there were several others. A hefty literature has therefore accumulated that

seeks to describe their fate and attempt to find a common thread for their demise. We shall review these thoughts before we come to our main subject.

Archaeologists have traditionally devoted much attention to the rise of civilizations, producing scores of studies that attempt to account for the origin, development, and growth of particular states. Serious studies on the decay and demise of early civilizations are, however, not many. In context with the Indus Civilization, this situation is reflected in the fact that while scores of booklength commentaries have appeared in the past half a century on the germination and blooming of the Indus Civilization, only one, from Shereen Ratnagar (4), has appeared that deals with the wilting of this cultural phase. Another (5) is a collection of already published and dated parers and is only obliquely relevant. This paucity of archaeological and interpretative literature is probably the result of the scarcity of archaeological research in continued to exist. Arrecording the cultural the final phase of the Harappan Civilization and the ensuing of a long “Dark Night” of the subcontinental prehistory. Indeed, this presumed ‘dark‘ period is oftentimes offered as an excuse for the obvious neglect of paying attention to the decay and decline of the Harappan Civilization and the eventual end of the Indus Age. In spite of this criticism, there is enough material available that allow us to have a floating peek into this period of momentous importance. Our primary source for this book, however, remains Ratnagar’s *The End of the Great Harappan Tradition,* augmented by Joseph A. Tainer‘s *The Collapse of Complex Societies*) and Yoffee and Cowgill’s edited book *The Collapse of Ancient States and Civilizations*. Of course, there are a number of articles by some eminent researchers whose thoughts and analyses form an integral part of this work. These authors have been appropriately recognized through running references within the text.

The later part of the Harappan Civilization and its eventual demise was a momentous period in the history of ancient Pakistan. Not much has, however, been written on the decay and decline of the Harappan Civilization or, more recently, on the ‘transformation’ of the Indus culture from an expansive urban
society to a number of regional cultures which took a long time to be on the road of civilization again. Most of this material deals with the ‘causes’ of decline rather than the process of cultural change from an urban society to a collection of some degenerated pre-urban cultures. Economic

imperatives are extensively discussed but these analyses give pride of place to natural calamities such as floods or to radical environmental changes as forces behind the end of the civilization. Furthermore, the issue of *why* and *how* has been commented on without putting it in a larger context of the cultural upheavals that many Bronze Age civilizations were experiencing at the same time period throughout the Old World. An effort has here been made to put some order in these debates.

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Chapter 1

Introduction



“The image of lost civilizations is compelling: cities buried by drifting sands or tangled jungle, ruin and desolation where once there were people and abundance. Surely few persons can read such descriptions and not sense awe and mystery. Invariably we are spellbound, and want to know more. Who were these people and, particularly, what happened to them? How could flourishing civilizations have existed in what are now such devastated circumstances? Did the people degrade their environment, did the climate change, or did civil conflict lead to collapse? Did foreign invaders put these cities to an end? Or is there some mysterious, internal dynamic to the rise and fall of civilizations? Some of us are so fascinated by these questions that we devote our lives to studying them. Most people encounter the dilemma of fallen empires and devastated cities in casual reading, or in a school course. The image is troublesome to all, not only for the vast human endeavors that have mysteriously failed, but also for the enduring implication of these failures. The implication is clear: civilizations are fragile, impermanent things.” This is how Joseph A. Tainter opens his book: *The Collapse of Complex Societies* (1).

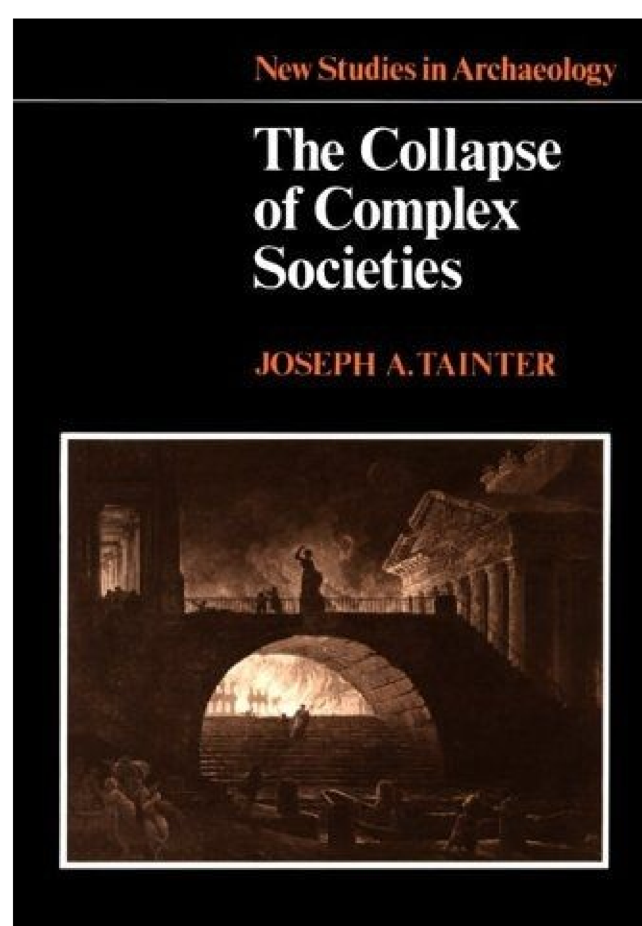
The reason why complex societies disintegrate is of vital importance to every one, and today that includes nearly the entire world population. Whether or not collapse was the most outstanding event of ancient history, few would care for it to become the most significant event of the present era. Even if one believes that modern societies are less vulnerable to collapse than ancient ones, the possibility that they may not be so, remains troubling. In the absence of a systematic, scientific treatment of collapse such concerns range untethered to any firm, reliable base. Such fears are frequently based on historical analogy with past civilizations that have disappeared.

To most of us the twilight of Rome comes immediately to our mind as soon as we hear the ‘fall’, the ‘disintegration’, the ‘end’, the ‘collapse’ of a civilization. This analogy has become deeply rooted in popular thought, and certainly persists today. It is even reflected in the writings of some professional authorities (2). Were it not for this well-documented example of a powerful empire disintegrating, to which every schoolchild is exposed, the fear of collapse would certainly be less wide-spread. As it is, those who are concerned about the future of industrial society, about its economic direction, its ecological basis, and its political superstructure, have an irrefutable illustration of the contention that civilizations, even powerful ones, are vulnerable.

What is Collapse? But what is collapse and why study it? It appears that collapse means different things to different people. To some, collapse means when a society as a whole disintegrates into its simple components. To others, collapse signifies when a state disintegrates into regional power centers. Others view collapse in terms of economic disintegration, of which the predicted end of industrial society is the ultimate expression. There are those who question the very utility of the

concept, pointing out that art styles and literary traditions often survive political and social decentralization, thus there is no ‘collapse’ but a mere ‘transformation’ of culture.

In the archaeological literature, collapse usually entails some or all of the following: the fragmentation of states into smaller political entities; the partial abandonment or complete desertion of urban centers, along with the loss or depletion of their centralizing functions; the breakdown of regional economic systems; and the failure of civilizational ideologies; rarely does collapse in



volve the complete disappearance of a group of people or of a "great tradition."

Ancient and medieval writers saw collapse in a way that is largely congruent with the perspective of the fall of specific political entities, the kingdoms, the empires. With the formal development of the social sciences in the last two centuries, however, a new conception has emerged: the transformation of civilizations as cultural forms. Many of the most prominent twentiethcentury scholars, such as Spengler (4), Toynbee (5), Kroeber (6,7) Coulborn (8,9), and Gray (10) and most of those who are read by popular audiences, have written in this vein. This school sees the end of a civilization as a transformation of the features or behaviors that characterize a cultural entity. These features are typically those that form the popular notion of 'civilization': specific styles of art and public architecture, traditions of literature and music, and philosophies of life and politics. To these authors it is the end of these civilizations (that is, their transformation into polities of lesser complexity, or into some other civilization, defined as new traditions in art, literature, music, and philosophy) that is of concern.

Collapse is, however, essentially a sociopolitical process. It may, and often does, have consequences in such areas as economics, art, and literature, but it is fundamentally a matter of the sociopolitical organization. As Tainter points out, “A society has collapsed when it displays a rapid, significant loss

of an established level of sociopolitical complexity” (1). The collapse must be rapid - taking no more than a few decades - and must entail a substantial loss of sociopolitical structure. A severe loss of material culture is often the result of such a collapse. Losses that are less severe, or take longer to occur, are to be considered cases of weakness and decline. Thus, collapse is manifest in such things as (1):

• a lower degree of stratification and social differentiation;
• less economic and occupational specialization of individuals, groups, and territories;
• less centralized control, that is, less regulation and integration of diverse economic and political groups by elites;
• less behavioral control and regimentation;
• less investment in the epiphenomena of complexity, those elements that define the concept of 'civilization': monumental architecture, artistic and literary achievements, and the like;
• less flow of information between individuals, between political and economic groups, and between a center and its periphery;
• less sharing, trading, and redistribution of resources;
• less overall coordination and organization of individuals and groups;
• a smaller territory integrated within a single political unit.

Not all collapsing societies, to be sure, will be equally characterized by each item on this list, and the list is by no means complete. Some societies that come under this definition have not possessed all of these features. This list, however, provides a fairly concise description of what happened in most of the better known cases of civilizational collapse.

As Tainter (1) brings to our attention, societies vary in complexity along a continuous scale, and any society that increases or decreases in complexity does so along the progression of this scale. There is no point on such a scale at which complexity can be said to emerge or to disappear. Hunting bands and tribal cultivators experience changes in complexity, either increases or decreases, just as surely as do large nations and civilizations. Thus, collapse, involving a sudden, major loss of an established level of complexity, must be considered relative to the size and complexity of the society in which it occurs (1). Simple societies can lose an established level of complexity just as do great empires. Sedentary horticulturalists may become mobile foragers, and lose the sociopolitical trappings of village life. A region organized under central chiefly administration may lose this hierarchical umbrella and revert to independent, feuding villages. A group of foragers may be so distressed by environmental deterioration that sharing and societal organization are largely abandoned. An argo-pastoral society, for one reason or the other, may cease to produce surplus to feed the non-producers of their cities and towns. These are cases of collapse, no less so than the end of Rome, and no less significant for their respective populations. To the extent, moreover, that the collapses of simpler societies can be understood by general principles, they are no less illuminating than the fall of nations and empires. Any explanation of collapse that purports to have general potential should help us to understand the full spectrum of its manifestations, from the simplest to the most complex.

In the 1960s and 1970s, comparative studies of early complex societies in anthropological archaeology focused overwhelmingly on the emergence of the first states and urban societies. Prime movers, primary states, and the earliest urban systems were the subject of intensive investigation and theorizing. But, by at least the 1980s, dissatisfaction with the emphasis on civilization's rise had emerged. On the one hand was the critique leveled against processual archaeology and its reliance on the band-tribe-chiefdomstate evolutionary model (see Section I of Volume IV). On the other was the

problem that a focus on origins assumed that there was little else to learn about complex societies once they appear; it implied that social evolution was complete when cities and states emerged. But the more the workings of early complex societies were exposed, the more apparent it became that these were not smoothly functioning machines that ran perfectly once their engines were turned on. Complex societies could be unstable phenomena, prone to episodes of fragility and collapse. As a result, the study of collapse in early complex societies has become a research focus of considerable significance. Besides Tainter's *The Collapse of Complex Societies (1)*, the studies devoted to civilizational collapse are Yoffee and Cowgill's *The Collapse of Ancient States and Civilizations* (27, and Jared Diamond's *The Collaps*e (15), not to mention discussions of specific episodes of collapse such as that of the Classic Maya, and Near Eastern urban systems of the late third millennium BC published in research journals of history and archaeology. The collapse of the Indus Civilization is the subject of Shereen Ratnagar's *The End of the Great Harappan Tradition* (3).

Questioning Collapse: The collapse of an ancient society does not mean an end to its "great tradition" in its totality - its overall culture, worldview, ethics, literature, and other major characteristics. Mostly, it only means a relatively rapid decline or disintegration of a specific complex political and economic system of a society. It is only the specific configurations of politics and economics, their legitimation and level of complexity, that change radically, decline, or disappear. Some scholars, such as Pitirim Sorokin (11) are, therefore, against the very concept of the 'death of civilizations'. Sorokin points out that at any point where such a death is postulated, there is nonetheless much continuity in cultural behavior from the dying civilization to the emerging one. Moreover, specific parts of cultural systems change continuously, so that the death of a civilization is difficult to pinpoint. Over three decades ago the sociologist Shmuel Eisenstadt (14) wrote that societal collapse seldom occurs if collapse is taken to mean "the complete end of those political systems and their accompanying civilizational framework". Norman Yoffee and George Cowgill (12) as well as Patricia McAnany (13) concur with this opinion: "When closely examined, the overriding human story is one of survival and regeneration. Certainly crises existed, political forms changed, and landscape were altered, but rarely did societies collapse in an absolute and apocalyptic sense" (13). Such a position is, of course, completely opposite to that of Jared Diamond (15), who proposed that a number of societies failed because they did not make right choices for their survivals. It is also opposed to several other authors and researchers of early civilizations, such as Tainter (1) who showed that civilizations are borne and they also die.

.... the weight of evidence is truly in favor of the end, the demise, the fall, the collapse of the Indus Civilization, whatever one chooses to call the phenomenon. There is no evidence for it "fading into the mainstream of the Indian culture", nor is there any evidence for a manifest continuity of the Indus cultural tradition beyond the early second millennium

While the end of the Indus Civilization generally and the Indus Age (the "Great Tradition") in particular is more-or-less taken for granted, the notion that Harappan culture elements like the bullock cart and method of bead manufacture are still with us is accepted equally unquestionably. Some would even take the remains of the Harappan religion for granted. It is probably this premise that has prompted some scholars, such as Possehl, Shaffer, and Kenoyer, to term this momentous cultural change as transformation, even Localization (16,21,22,25,38,39,40). They view it as a period of cultural transformation connected with changes in local environments, socio-political organization, changing population distributions, and settlement pattern. In their opinions culture transformation is a continuous process with a varying degree of intensity and involves factors like

human adjustments to prevailing environmental and social conditions of the region. Culture change is also multidirectional and the degree and nature of change vary in time and space. As we shall discuss in the followings, some archaeologists, especially in India, subscribe this view. They emphasize that, just as in many areas of the world, there was a continuous series of cultural developments, without any cultural break. Cultural transformation, at least what is implied in context with Indus archaeology, is a slow but perceptible cultural change where the existing culture transforms into another culture while still retaining a

BC.

number of traits of the older culture. The new culture could be simpler or at par with the older culture but a cultural continuity remains in existence. This approach has its own merit but suffers from *a priori* value judgement - a cultural transformation, not a change strongly implying a cultural continuity.

While the end of the Harappan Civilization is widely accepted, there is still *a* group of archaeologists, anthropologists, and prehistorians who have questioned this conclusion. They rely on the concept of human resilience and its usefulness for understanding change, both past and present. Possehl is one of these scholars who do not believe that the Indus Civilization ever came to an end. The level of socio-cultural attainments which existed throughout its Mature phase was slowed down in its later stage, it was centrally less organized, less differentiated and less specialized than the Urban phase but it was still a continuum of the preceding cultural flow. He doubts that stratigraphic dead ends (the termination of a certain kind of material culture in the vertical sequence of a site) mean the end of a tradition: “a state it was that died”, he argued in 1979, “not the Harappan civilization or its pottery and other material constituents” (16).

Similarly, Shaffer considered the demise of the Indus Civilization a process of decentralization and localization which gave rise to regional cultural expressions rather than extinction (17). Allchins go even further; according to them, “what is probably important in understanding the cultural development of the post-Urban phase is that throughout every province of the Indus Civilization societies survived which, while losing the distinctive characteristics of the Indus Civilization, nonetheless retained a broadly 'Harappan' tradition in other respects” (18). These opinions, in effect, downplay the disintegration and the eventual end of the Harappan Civilization and, instead, stress the continuity of the Indus culture into the early historic times. "If you seek a legacy, look about you" the Allchins noted (19). Fairservis (20) put it more romantically when he said that "the answer to the question as to why the Harappan Civilization fell is that it didn't fall at all! It simply stood at the beginning of the mainstream of Indian culture and faded into that current, having brought to it acts of faith, class morality, aspects of technology, and perhaps a cosmology which heralded the eventual supreme achievement that was medieval India".

These opinions are, of course, extreme as the weight of evidence is truly in favor of the end, the demise, the fall, the collapse of the Indus Civilization, whatever one chooses to call the phenomenon. There is no evidence for it “fading into the mainstream of the Indian culture”, nor is there any evidence for a manifest continuity of the Indus cultural tradition beyond the early second millennium BC.

Because of this dichotomy of opinions, there is much debate on the terminology of the Harappan Civilization and its aftermath. The final stage of the civilization has been categorized as its *decline*,

decay, decadence, and increasingly, a *cultural transformation*, (16,21,22). The terminal story of the Indus Age has also been written as the *end*, the *demise*, the *fall*, and the *collapse* of the Indus Civilization. This terminological problem arises from the conceptualization of the postHarappan landscape. It also represents different interpretative orientations which have some important theoretical implications.

The distinction between terms such as *decline, decay,* and *decadence* on the one hand and, on the other hand, terms such as *fall, collapse, fragmentation,* and *death* is too easily glossed over in the writings on the Indus Civilization. Those in the former group imply changes that are somehow for the worse, especially morally or aesthetically inferior, but are not necessarily the end of anything. Those in the latter group, however, imply that some meaningful entity ceased to exist. Since we wish to avoid protracted and inevitable discussions about the criteria that might be used to decide moral or aesthetic decline (or improvement), we have focused here on changes in the quantity or quality of material phenomena - the economic, technological, demographic, and, especially, the political aspects of social life. In turning to phrases that refer to the termination of something, rather than to its deterioration, it is useful to distinguish between two semantic categories: those that denote the collapse or end of a civilization and those that refer to the collapse of a state. We will be discussing here the civilization rather than the state.

Cowgill (23) has suggested that the term *civilization* refer to those human cultures that are not only socially differentiated and politically centralized but also have the component of what Robert Redfield called a "great tradition" (24). To speak of the end of a civilization, therefore, among other things, is to the termination of that "great tradition." Such cases are indeed rare and is perhaps represented only by the Indus Civilization. In contrast, the collapse of a state is a phrase with obvious political reference - the falling apart of a large, centralized political system into a number of smaller, politically autonomous units in which permanent specialization of governmental roles is no longer in evidence. The Indus Civilization would hardly fit in this category. As far as the “end” or the “transformation” of the Indus Civilization is concerned, we chose to be on the popular side: civilizations, as complex societies, are borne, they also die. Such a definition will more clearly fit the present discussion.

As far as the “end” or the “transformation” of the Indus Civilization is concerned, we chose to be on the popular side: civilizations, as complex societies, are borne, they also die.

The features that popularly define a civilized society - such as great traditions of art and writing, architecture, religion, artifacts, ornaments
- are epiphenomena or covariables of social, political, and economic complexity. Social complexity calls these traditions into being. Civilization emerges with complexity, exists because of it, and disappears when complexity does. Complexity is the base of civilization, and civilization, by definition here, can disappear only when complexity vanishes. It may be true that specific polities can rise and fall within a civilization, but political complexity itself must disintegrate for civilization to disappear. For this reason the study of rising and falling complexity serves as a monitor of the phenomenon termed civilization, a monitor that is at once measurable and specifiable, and so less subject to the biases and value judgements of other approaches. The Indus Civilization was a complex society; at some point in time it lost this complexity. It did not get ‘transformed’ into another civilization, it reverted to its constituent components of much less complexity, of course, with concomitant and drastic changes in social, political, and economic spheres. There is, thus, no

ambiguity (3).

The reader will note that the approach taken here differs from that of Possehl and Kenoyer, who emphasize the survival of Harappan traditions (disconnected ones, it may be noted), such as the bullock-carts, the binary-decimal system of measurement, the scored goblet, and the shape of the cooking vessel, the Handi. Possehl doubts that stratigraphic dead ends (the termination of a certain kind of material culture in the vertical sequence of a site) mean the end of tradition: “a state it was that died”, he argued in 1979, “not the Harappan Civilization or its pottery and other material constituents.” In contrast, we follow the line of thought of Shereen Ratnagar (3). Her argument, is that the civilization did indeed come to an end. Certainly some pottery forms, oral traditions, village cults, and the rural sciences of land

The Indus Civilization was a complex society; at some point in time it lost this complexity. It did not get ‘transformed’ into another civilization, it reverted to its constituent components of much less complexity, of course, with concomitant and drastic changes in social, political, and economic spheres. There is, thus, no

ambiguity (*Shereen Ratnagar*).

use entailing knowledge of seed types, animal behavior, did not go into oblivion. But however many such elements we count as 'survivals', they are not tantamount to an integrated Bronze Age political economy. Certainly, it is the state that died but the Great Indus Civilization died as well. There is nothing peculiar with the Indus Civilization; “civilizations are borne, they also die” (3).

Collapse is a recurrent feature of human societies, and indeed it is this fact that makes it worthwhile to explore it as a general explanation. The scope of this chapter does not allow such an exposition in full. Our primary focus remains the Indus Civilization and we shall be content with the lessons that can be learnt from the collapse of some extraneous civilizations, the lessons that can possibly be used for explaining the collapse of the Indus Civilization.

Examples of Collapse in History: Collapse is a recurrent feature of human societies. Tainter gives several examples of early states and civilizations which met with this fate and on which we have sufficient information. In the followings we have selected a few of them to illustrate common elements to the phenomenon, and also to portray the range of societies that were susceptible to collapse or drastic change in social order (1).
Mesopotamia: Mesopotamia is characteristically seen as the heartland, the center of origin of civilization and urban society. It displays a history of political rises and declines that furnishes many examples of collapse.

From the competing city-states of the early third millennium B.C., Sargon of Akkad developed the first Mesopotamian empire (*ca*. 2350-2150 BC). Its fall some 200 years following establishment was presaged by a series of rebellions in the subject city-states. A period of decentralization followed in southern Mesopotamia. The next period of regional hegemony was established by the Third Dynasty of Ur (*ca*. 2100-2000 BC), which set up a vast regional bureaucracy to collect taxes and tribute. The Third Dynasty of Ur encouraged expansion of the irrigation system, and growth of population and settlement. This attempt to maximize economic and political power led to a rapid collapse, with disastrous consequences for southern Mesopotamia. Over the next millennium or so there was a 40 percent reduction in the number of settlements, and a 77 percent reduction in settled area.

Political power shifted to the North, to Babylon. The empire established by Hammurabi (*ca.* 1792-1750 BC) did not survive the death of his son, Samsuiluna (died *ca.* 1712 BC). Four succeeding kings ruled a greatly reduced realm, until the dynasty was terminated by the Hittites. Partly coterminously, the Assyrians in the period between 1920 and 1780 BC established widespread trade routes, and then collapsed. The Assyrians enjoyed a political resurgence in the 14th century BC, and then again from the ninth to the seventh centuries. In this latter era they held a vast empire over much of the Near East, only to lose most of these dependencies and suffer defeat by the Medes in 614 BC. Assyrian social and political institutions disappeared thereafter.

AfterabriefresurgencebyBabylon, brought to an end by Cyrus the Great, Mesopotamia was incorporated into successive Near Eastern empires of varying size and durability - Achaemenian, Seleucid, Parthian, Sassanian, and Islamic. There was an irregular but largely sustained increase in the scale and complexity of the agricultural regime, in population density, and in city building.

Sometime in the seventh through tenth centuries AD, however, there was a major collapse in the Mesopotamian alluvium. By the eleventh or twelfth centuries AD the total occupied area had shrunk to only about six percent of its level 500 years earlier. Population dropped to the lowest point in five millennia. State resources declined precipitously. In many strategic and formerly prosperous areas, there were tax revenue losses of 90 percent or more in less than a single lifetime. People rebelled and the countryside became ungovernable. By the early tenth century irrigation weirs were nearly all confined to the vicinity of Baghdad. The basis for urban life in perhaps 10,000 square kilometers of the Mesopotamian heartland was eliminated for centuries, until the modern era. The region was claimed primarily by nomads.

The Egyptian Old Kingdom: The unification of Upper and Lower Egypt is usually traced to the First Dynasty, 3100 BC. This event has always been regarded as a milestone in political history. Th Egyptian Old Kingdom was a highly centralized political system headed by a king with qualified supernatural authority. The government was based on a literate hierarchically organized bureaucracy. It enjoyed substantial permanent income from the crown lands, commanded large labor pools, and virtually monopolized some vital materials and imported luxuries. This government in turn enhanced productive capabilities, provided administration and outward expansion, and maintain supernatural relations**.**

As the Old Kingdom developed, however, it became difficult to ensure effective control of the provinces, which began to show strong feudal characteristics. The political authority of the ruler seems to have declined, while the power of provincial officials and the wealth of the administrative nobility rose. Crown lands were subdivided. The establishment of tax-exempt funerary endowments diminished royal resources. And yet, these developments coincided with immense construction at royal expense. The last ruler of the Sixth Dynasty, Phiops II, built a magnificent funerary monument even as the declining power of the royal family fell sharply at the close of his reign.

With the end of the Sixth Dynasty in 2181 BC the Old Kingdom collapsed. Beginning with the Seventh Dynasty there was a period of strife, one of the darkest episodes in Egyptian history. **In** the First Intermediate Period national centralization collapsed, and was replaced by a number of independent and semi-independent polities. There were many rulers and generally short reigns. Royal tombs became less elaborate.

Contemporary records are few, but those that exist indicate a breakdown of order. There was strife

between districts; looting, killing, revolutions, and social anarchy; and incursions into the Delta. Tombs were plundered, royal women were clothed in rags, and officials were insulted; peasants carried shields as they tilled their fields. Foreign trade dropped, famines recurred, and life expectancy declined. With the Eleventh Dynasty, beginning in 2131 BC, order and unity began to be restored. The Middle Kingdom was established. Yet local and regional independence was not fully suppressed until *ca.* 1870 BC.

The Hittite Empire: The Hittites are a little known people of Anatolia, whose political history begins about 1792 BC with the conquests of Anitta. Throughout the succeeding centuries Hittite fortunes rose and fell. Episodes of conquest and expansion were interspersed with periods of defense and disintegration. During the latter times Hittite armies suffered reverses, provinces were lost, and the Kaska tribes raided and burned the cities of the homeland. Even the Hittite capital, Khattusha, fell to the Kaska. The great ruler Shuppiluliumash, restored the Hittite position after his accession to the throne *ca.* 1380 BC. In this and succeeding reigns the empire was firmly established in Anatolia and Syria. In Syria the Hittites contested successfully for domination with Egypt, concluding a treaty with Rameses in 1284 B.C**.**

In the early thirteenth century BC the Hittites were at the height of their power. Their empire included most of Anatolia, Syria, and Cyprus. The Hittites and the Egyptians were the two major powers in the region. Yet the resources of this empire were strained. Although relations with Egypt remained peaceful, the Hittites encountered troubles in nearly all directions, including the Assyrians to the Southeast, the Kaska tribes to the East, and little known peoples in western Asia Minor and Cyprus. Toward the end of the thirteenth century BC their written records decline and finally cease altogether.

As the Hittite Empire collapsed a catastrophe of major magnitude but uncertain form overtook the region. Excavated sites across Anatolia and Syria are consistently found to have burned about this time. Hittite Civilization collapsed with the Empire. The life of the central Anatolian Plateau, after about 1204 BC, was disrupted for a century or more. The area ceased to sustain urban settlements, and seems to have been thinly populated or used by nomads. When a new empire emerged in the region between the twelfth and ninth centuries BC, it was Phrygian, and totally unrelated to that of the Hittites.

Minoan Civilization: The Minoan Civilization of Crete was the first in Europe. The earliest palaces on the island were built soon after 2000 BC. They were thereafter repeatedly destroyed by earthquakes, and up to the final collapse were each time rebuilt more splendidly than before. The Minoans possessed advanced knowledge of architecture, engineering, drainage, and hydraulics. The palace of Knossos after 1700 BC was more luxurious than the contemporary palaces of Egypt and the Near East. It contained water-flushing latrines and a drainage system. Rich frescoes adorned many walls. There were craft production rooms for potters, weavers, metal workers, and lapidaries. Palaces functioned as administrative centers, as warehouses, and as controlling nodes in the economy. They contained large numbers of storerooms and storage vessels, Knossos alone having the capacity to hold more than 240,000 gallons of olive oil. There was administrative writing: records included the contents of armories, and indicate that goods were directed to the palace, and from there redistributed. The Phaistos Disk is the oldest known example of printing, being made from movable type impressed into the clay.

The Minoans traded widely about the Mediterranean, particularly the eastern half. They were most likely the major sea power of the time. For most of Minoan history Crete seems to have been

peaceful, for the palaces were unfortified and the scenes on the frescoes peaceful. About 1500 BC, however, a powerful earthquake caused widespread destruction, and thereafter there were major changes. An earlier script, undeciphered but known as Linear A, was replaced by the Greek Linear B. New methods of warfare were introduced, involving new kinds of arms and the horse. The Mycenaean civilization of mainland Greece became a serious trade competitor. Security declined as militarism increased. The central and eastern parts of Crete, and possibly the whole island, may have come under the domination of Knossos. About 1380 BC the Cretan palaces were finally destroyed; most were not rebuilt. Minoan Civilization collapsed. Political, economic, and administrative centralization declined. A late, reduced administration at Knossos and some other sites finally ended about 1200 B.C.

Mycenaean Civilization: Mycenaean Civilization of Mainland Greece began to develop about 1650 BC. It reached the height of its power and prosperity after 1400 BC, following the Minoan collapse. Throughout central and southern Greece there developed a great deal of homogeneity in such things as art, architecture, and political organization. This region was divided among a number of independent states which were each centered on a fortified palace/citadel complex headed by a single ruler. Mycenae itself is the most famous of these, and was probably the most powerful. Nobles made up the royal court and administration; major land holders (lesser nobles) administered estates in the countryside. The Linear B tablets from Pylos indicate that this kingdom was divided into 16 administrative districts, each controlled by a governor and deputy. Mycenaean palaces, like their Cretan counterparts, served as controlling economic centers at which goods and foodstuffs were stored and redistributed. Much of the Linear B writing was devoted to the accounting needs created thereby.

The art and architecture of Mycenaean Civilization are widely known. Major structures were built with massive, 'cyclopean' walls. Palaces contained frescoes and bathrooms. Gem cutting, metalwork, and pottery making were carried out by skilled artisans, as was inlay and work in ivory, glass, and faience. Very often these artisans worked under the close supervision of a palace authority. Roads, viaducts, and aqueducts were built. Mycenaean wares were traded widely about the Mediterranean.

After about 1200 BC disaster struck. Palace after palace was destroyed. There followed a period of more than 100 years of unstable conditions, repeated catastrophes afflicting many centers, and movement of population. The uniform Mycenaean style of pottery gave way to local styles that were less well executed. Metalwork became simpler. Writing disappeared. The craftsmen and artisans seem to have everywhere vanished. Fortifications were built across the Isthmus of Corinth and at other places. At Mycenae, Tiryns, and Athens water sources were developed within the citadel, cut through solid rock at great labor. The rock-cut well at Athens, at least, seems to date to the time of the troubles. Trade dropped off, and one author has suggested that the subsequent preference for iron implements was due to a sharp decline in copper and tin trade.

Thenumberofoccupiedsettlements dropped precipitously, from 320 in the thirteenth century BC, to 130 in the twelfth, and 40 in the eleventh. In some areas, such as the Southwest Peloponnese, settlement increased at this time, and it seems that some of the people of the devastated regions may have migrated to less troubled areas. Yet only a small part of the population loss can be accounted for in this way. Estimates of the magnitude of overall population decline range from 75 to 90 percent. Even areas that escaped devastation, such as Athens, suffered ultimate political collapse. By 1050 BC Mycenaean Civilization, despite brief local resurgences, was everywhere gone, and the Greek Dark

Ages had begun.

The Lowland Classic Maya: One of the most famous civilizations that have collapsed, the Maya of the southern lowlands have left a legacy of temples, palaces, entire cities lying abandoned in the jungle. This creates a powerful image. No doubt the rain forest has much to do with this. **In** popular thought, civilization is what stands between humanity and the chaos of nature. The picture of cities that have been overcome by this chaos compels us to morbid fascination.

Elements of the complex of features called Mayan Civilization can be traced far into the first millennium BC. By the last few centuries BC. complex political organization and massive public architecture were emerging in m a n y a r e a s . Throughout most of the first millennium AD Mayan cities grew in size and power. Vast public works were undertaken, temples and palaces were built and decorated, the arts flourished, and the landscape was modified and claimed for planting. These patterns intensified in the first half of the eighth century AD. Thereafter, with a swiftness that is shocking, the Mayan cities began one-byone to collapse. By about 900 AD. political and ceremonial activity on the previous level came to an end, although some remnant populations tried to carry on city life. A major part of the southern Lowlands population was correspondingly lost, either to increased mortality, or to emigration from the newly deserted centers.

The Western Roman Empire: The Roman Empire is the prime example of collapse; it is the one case above all others that inspires fascination to this day. A vast empire with supreme military power and seemingly unlimited resources, its vulnerability has always carried the message that civilizations are fleeting things. If the Roman Empire, dominant in its world, was subject to the impersonal forces of history, then it is no wonder that so many fear for the future of contemporary civilization.

Rome in the last few centuries B.C. extended its domination first over Italy, then over the Mediterranean and its fringing lands, and finally into northwestern Europe. A combination of stresses at home, dangers abroad, and irresistible opportunities made expansion a workable policy until Augustus (27 BC -14 AD) effectively capped the size of the empire. Additions thereafter tended to be of minor importance. Despite Rome's spectacular rise, the *Pax Romana* did not endure long. As early as the second century AD barbarian invasions and plague at home combined to weaken the empire. In the third century the empire nearly disintegrated, as civil wars and economic crises were added to more barbarian incursions and another outbreak of plague. By the end of the third and the beginning of the fourth centuries, Diocletian and Constantine restored order for a time. **In** 395 AD the Roman Empire was permanently divided into western and eastern halves. The West began a precipitous decline as provinces were increasingly lost to barbarians. Finally, the last Roman Emperor of the West was deposed in 476 A.D.

Western Chou Empire: Chou reign is looked back on by Chinese as a golden age. The Chou ruled through feudal system, but within a few centuries their control began to slip. Barbarian invasions increased in frequency through the ninth and eighths centuries, and regional lords began to ignore their obligations to the Chou. In 1771 BC, the last Western Chou ruler was killed in battle and the capital city, Hao, overrun and sacked by the northerns.

This period of disintegration and conflict produced some of China's major philosophical, literary, and scientific achievements. Confucius wrote during, and reaction to, this era. Contending schools of philosophy proliferated and flourished between 500 and 250 BC. In addition to many technical and economic developments, Chinese political thought in its classical form emerged during the worst of

the breakdown.

Theorizing Collapse: The ancient Greeks theorized that civilizations were organisms and go through cycles of birth, growth, and death. These ideas resonated with later scholars for long and were looked upon as the basis of all ideas how civilizations arose, matured, weakened, and died. These ideas were, however, deduced, not specifically addressed. Perhaps the first historian who wrote specifically on the collapse of states and empires was the great 14th century Muslim scholar, Ibn Khaldun. He extensively theorized and analyzed the growth and decline of the Islamic empires and these theories much influenced the writings of later historians. Ibn Khaldun suggested in his *Muqaddima* that repeated encroachments by nomadic peoples on the peripheries of these empires was the immediate cause for their disintegration and fall and that the loss of *asabiyah* (which can be translated as groupfeeling, the cohesion, for common good) was the real underlying factor which made the encroachments and invasions possible. Ibn Khaldun, however, did not see eye to eye with the general perception of the Greeks that the civilizations are borne, mature, and ultimately must die. This organismic view, nevertheless resurfaced by the early part of the last century. Oswald Spengler's *Decline of the West* (1918-1922) and Arnold Toynbee's *A Study of History* (1933-1954, first ten volumes), which were certainly influenced by the Greek view, have found an interested and enthusiastic public. Both of these were no doubt the most influential historians of the last century whose ideas greatly influenced the modern thoughts on the rise and fall of civilizations and they still continue to do so.

Oswald Spengler is best known for his book *The Decline of the Wes*t, published in 1918, covering all of world history. He made two central points relevant to our concerns: that histories of various cultures - his principal point of comparison is Classical (Greek) - can be shown to follow a similar pattern and that all aspects of a culture - art, politics, mathematics, science - have related underlying principles. Spengler views cultures as ‘organic’ by which he means that they follow a life pattern, one he names by analogy to seasons. The spring of a culture is the time of the origin of its basic principles, the time of the birth of the religion of that culture. A culture acting ‘in form’ (a comparison to athletes who are at the peak of their form) is in its summer, when all aspects can be seen as working under the principles at the basis of the culture, and when great accomplishments are made - the artifacts of lasting value. All cultures come to a civilization phase, an autumn when this breaks down. Mega-cities are characteristic of this time. People no longer accept common principles or goals, they fight all rules from the past. The arts, rather than working in ways that seem obvious to the artists and the people, follow fashions with constant changes of style. According to Spengler, the civilization will move in the direction of its Destiny, regardless of our choices. In effect, he proposed a theory according to which the lifespan of civilizations is limited and ultimately they decay.

Toynbee in his *A Study of History* also suggested that all civilizations tended to go through the cycle of birth, maturation and death. The fall of a civilization occurred when the cultural elite became a parasitic elite, leading to the rise of internal dissensions and external pressures. Toynbee was a world historian in the sense that the entire history of humanity came into his purview. Indeed, for him history was without a central point of reference. In principle, this perspectate is not unlike that of the anthropological evolutionists, who hold that any culture, no matter whether known from ethnographic or archaeological evidence and without regard to time or space, can be typed and so identified as representative of a stage of human social development.

Toynbee argues that the breakdown of civilizations is not caused by loss of control over the environment or attacks from outside. Rather, societies that develop great expertise in problem solving

become incapable of solving new problems by overdeveloping their structures for solving old ones.

As Norman Yoffee (26) has noted, Toynbee combined a dose of British empiricism with Spengler's mystical cultural organisms. In particular, Toynbee was concerned with formulating explicit and causal statements to account for the origin and collapse of civilizations. Best known of these formulations is his challenge-and-response hypothesis of the growth and development of civilizations. Among diverse cultures, growth is selected for when certain environmental obstacles are presented that humans have to overcome. The stony land of Athens, for example, is contrasted with the flat land of Thebes as an explanation for the development of the "Hellenic model" of historical process. Challenges must not be too daunting, however, for civilizations can never arise in the bleak tundra or the exuberant tropical rainforest. Given the proper obstacles to overcome, an ineffable manifestation of the spirit is gradually set in motion: initial political disunity is transformed into a "universal" state that is the expression of underlying cultural unity.

For Toynbee, the collapse of civilizations is symmetrically accounted for by a breakdown of creative spirit and the estrangement of the intellectual elite from the masses. This breakdown is not regular, as in Spengler's biological rhythms, but collapse is just as surely the destiny of civilizations. Its course depends on how the civilization responds to its challenges, and it is internal processes (not simply barbarians or other invaders) that deal the final blow to civilizations. In further contrast to Spengler, Toynbee breakdown may be reversible. The great irony expressed by these and others like them is that civilizations that seem ideally designed to creatively solve problems, find themselves doing so self-destructively.

Current Thoughts: Ideas about the collapse of civilizations are not restricted, of course, to the nineteenth and twentieth centuries and to archaeological theory-building. Many scholars have recently offered facile explanations of societal collapse by assuming one or more of the following three models for collapse (1):
1. The *Dinosaur*, a large-scale society in which resources are being depleted at an exponential rate and yet nothing is done to rectify the problem because the ruling elite are unwilling or unable to adapt to those resources' reduced availability. In this type of society, rulers tend to oppose any solutions that diverge from their present course of action. They will favor intensification and commit an increasing number of resources to their present plans, projects, and social institutions. 2. *The Runaway Train*, a society whose continuing function depends on constant growth. This type of society, based almost exclusively on acquisition (*e.g.*, pillage or exploitation), cannot be sustained indefinitely. The Assyrian and Mongol Empires, for example, both fractured and collapsed when no new conquests were forthcoming. Tainter argues that capitalism can be seen as an example of the Runaway Train model in that generally accepted accounting practices require publicly traded companies, along with many privately held ones, to exhibit growth as measured at some fixed interval. Moreover, the ethos of consumerism on the demand side and the practice of planned obsolescence on the supply side encourage the purchase of an ever-increasing number of goods and services even when resource extraction and food production are unsustainable if continued at current levels.
3. The *House of Cards*, a society that has grown to be so large and include so many complex social institutions that it is inherently unstable and prone to collapse. This type of society has been seen with particular frequency among centrally controlled societies, in which all social organizations are arms of the government, such that the government must either stifle association wholesale or exercise less authority than it asserts. By contrast, when voluntary and private associations are allowed to flourish and gain legitimacy at an institutional level, they complement and often even supplant governmental

functions: They provide a "safety valve" for dissent, assist with resource allocation, provide for social experimentation without the need for governmental coercion, and enable the public to maintain confidence in society as a whole even during periods of governmental weakness and economic stress.

Jared Diamond in his 2005 book " *Collapse: How Societies Choose to Fail or Succeed*" suggests five major reasons for the collapse of 41 studied cultures: environmental damage, such as deforestation and soil erosion; climate change; dependence upon long-distance trade for needed resources; increasing levels of internal and external violence, such as war or invasion; and societal responses to internal and environmental problems.

Tainter's Critique: Tainter argues that these models, in addition to be superficial and useful, cannot severally or jointly account for all instances of societal collapse. Often they are seen as interconnected occurrences that reinforce each other. For example, the failure of Easter Island's leaders to remedy rapid ecological deterioration cannot be understood without reference to the other models above. The islanders, who erected large statues called *moai* as a form of religious reverence to their ancestors, used felled trees as rollers to transport them. Because the islanders firmly believed that their displays of reverence would lead to increased future prosperity, they had a deeply entrenched incentive to intensify *moai* production. Because Easter Island's geographic isolation made its resources hard to replenish and made the balance of its overall ecosystem very delicate ("House of Cards"), deforestation led to soil erosion and insufficient resources to build boats for fishing or tools for hunting. Competition for dwindling resources resulted in warfare and many casualties (an additional "Runaway Train" iteration). Together these events led to the collapse of the civilization, but no single factor above provides an adequate account. Mainstream interpretations of the history of Easter Island also include the slave raiders who abducted a large proportion of the population and epidemics that killed most of the survivors. Again, no single point explains the collapse; only a complex and integrated view can do so.

The collapse of complex human societies, while a subject of perennial scholarly and popular fascination, remains poorly understood. Tainter (1), surveying previous attempts to account for the demise of civilizations, noted that most proposed explanations of collapse failed to adequately describe causative mechanisms, and relied either on ad-hoc hypotheses based on details of specific cases or, by contrast, essentially mystical claims (e.g., that civilizations have lifespans like those of individual biological organisms). In another recent survey of collapses in history (27), contributors proposed widely divergent explanatory models to account for broadly similar processes of decline and breakdown.

Tainter (1) proposed a general theory of collapse, in which complex societies break down when increasing complexity results in negative marginal returns, so that a decrease in sociopolitical complexity yields net benefits to people in the society. This theory has important strengths, and models many features of the breakdown of civilizations, but it fails to account for other factors, especially the temporal dimensions of the process. Tainter defines collapse as a process of marked sociopolitical simplification unfolding on a timescale of "no more than a few decades" (1), replacing an unsustainably high level of complexity with a lower, more sustainable level. Many of the examples he cites, however, fail to fit this description.

Tainter's position is that social complexity is a recent and comparatively anomalous occurrence requiring constant support. He asserts that collapse is best understood by grasping four axioms. In his

own words:

1. human societies are problem-solving organizations;
2. sociopolitical systems require energy for their maintenance;
3. increased complexity carries with it increased costs per capita; and
4. investment in sociopolitical complexity as a problem-solving response reaches a point of declining marginal returns. With these facts in mind, collapse can simply be understood as a loss of the energy needed to maintain social complexity. Collapse is thus the sudden loss of social complexity, stratification, internal and external communication and exchange, and productivity.

Tainter's theory, however, does not explain every situation in the history of early civilizations. For instance, during the collapse of Roman power, each of a series of crises led to loss of social complexity and the establishment of temporary stability at a less complex level. Each such level then proved to be unsustainable in turn, and was followed by a further crisis and loss of complexity. In many regions, furthermore, the sociopolitical complexity remaining after the empire's final disintegration was far below the level that had existed in the same area prior to its inclusion in the Imperial system. Thus Britain in the late pre-Roman Iron Age, for example, had achieved a stable and flourishing nascent urban centers connections, while the same area remained depopulated, impoverished, and politically chaotic for centuries following the collapse of imperial authority.

An alternative model based on perspectives from human ecology has been offered as a more effective way to understand the collapse process. This conceptual model, the theory of catabolic collapse (28), explains the breakdown of complex societies as the result of a self-reinforcing cycle of decline driven by interactions among resources, capital, production, and waste. Previous work on the human ecology of past civilizations and attempts to project the impact of ecological factors on present societies have yielded data and analytical tools from which a general theory of the collapse of complex societies may be developed. In a nutshell, Greer's theory of catabolic collapse is that as societies grow they tend to accumulate infrastructure as they add complexity, all of which requires maintenance. At some point the maintenance bill on all of the infrastructure is as big as society's earnings, so growth comes to a standstill. Resolution is brought about by shedding infrastructure and complexity - usually in a painful crisis mode, until the maintenance cost on agricultural society with and international trade the now smaller infrastructure and the simpler society is affordable and growth can resume. It's a sort of business cycle model, but on the scale of the rise and fall of nations and empire. The grand ups and downs are on multi-generational time scales. This model allows key features of historical examples of collapse to be accounted for, and suggests parallels between successional proc

collapse esses in nonhuman ecosystems and

phenomena in human societies.

Collapse as an Evolutionary

The specific data on collapse that are pertinent to the formulation of a theory of social evolution have not been rigorously collected and comparatively analyzed. Nevertheless, two important strains in the evolutionist literature have attempted to cope with collapse phenomenon. In the first, biological analogy and then sociobiological theory have been offered as explanatory inspiration; in the second, collapse is viewed with the framework of general systems theory. Norman Yoffee discuss them in The Collapse of Ancient

States and Civilizations (27).
For Elman Service, the "law of evolutionary potential" states that the more specialized and adapted a form in a given evolutionary stage, the smaller the potential for passing to the next stage (29). For Service, although development is attributable to the "solution of problems posed by the outside environment by means created inside itself - i.e., inside its bureaucracy"(3 0) , c o l l a p s e seems due to the backlash of diffusion. In this perspective, social organizations are clearly modeled as plant or animal species that are initially successful because they adapt well to their niches. Eventually, however, they become statically specialized and 'overadapted', less viable than more generally adapted competitors who vanquish them.
Social evolutionists like Service seem to have adopted such biological analogies in order to lend the study of social change a more scientific veneer (26). In their evolutionist paradigm, thus, societies are perceived to pass - speciationally - through a series of sequential stages or levels. The assumption is that cultures (wherever they may be found) cluster in discrete stages (e.g., tribes, chiefdoms, states), each stage representing a package of interlinked cultural institutions of government, economy, and social organization. Change must proceed "holistically" since all institutions move in the same direction and at the same pace from stage to stage. This model has been perceived as inadequate to explain the rise of complex societies, for which purpose it was formulated, and its deficiencies are laid open clearly when it is applied to situations of collapse. Most apparent in such studies is that whereas some institutions fail, others do not. Indeed, in the example of the Indus Civilization the collapse represent a total institutional breakdown but not the subsistence economy and the technologies re

Product:

lated to it. Collapse thus cannot be understood through an organic analogy as the endpoint of evolutionary decay.

A number of attempts to deal with collapse using the perspective and lexicon of general systems and information theory have also appeared in the evolutionist literature. Kent Flannery, in an important paper (31) that may be used as the salient example, argued that complexity could be measured according to the amounts of "segregation" (i.e., social differentiation) and "centralization" (i.e., social integration) in a society. Change, in this scheme, proceeds according to the evolutionary mechanisms of "promotion" (in which a special-purpose system takes on general system characteristics and "linearization" (in which centralized authority bypasses local authorities to create new possibilities for mobility within the society). These mechanisms for growth, however, can easily become "pathologies" by which central authorities "meddle" in stable lower-order controls and by which a special-purpose system "usurps" the role of the general-purpose system. The resulting "hypercoherence" from these pathologies threatens systemic viability by imperiling the flexibilityof

institutions to deal with stress selectively. Failure in one part of the system affects all the other parts in a domino theory of disaster.

AlthoughFlannery'sevolutionarymodel usefully identifies some institutional properties in complex societies and the fragility of interdependent linkages of social groupings, it has been criticized for its inability to isolate any specific dimensions of causality in culture change. Part of the problem seems to be that Flannery, writing in the early 1970s, still saw the various evolutionary mechanisms and pathologies as existing in bundles of homeostatic adaptations, in discrete stages and levels. Collapse, thus, was explained by "hypercoherence": when social institutions become so integrally connected that failure in one important subsystem affects all others, the whole hierarchy comes crashing down like a house of cards. Collapses in the real world, however, are seldom wholly catastrophic, but must be broken down institution by institution (32).

Anothertheoreticallyparsimoniousapproach to collapse is "catastrophe theory," a specialized branch of mathematical topology that has been adapted to the analysis of social systems, especially by Colin Renfrew *(33). Catastrophe* refers to an abrupt and drastic change in the behavior of a system, and catastrophe theory attempts to model such changes as results of internal systemic trajectories rather than of any external factors. For catastrophe theory it is important that "civilization be expressed in terms of a single variable or several variables" and that "a single variable will suffice to give all the local picture" (33).

For Rappaport social evolution appears as a series of stages (or "punctuated equilibriums"). These stages are measured, in part, according to the increase in special-purpose systems that are coordinated by progressively centralized organizations. Rappaport believes that complex, differentiated societies are profoundly maladaptive since, instead of maintaining flexible responses to stress, the interconnections in these hierarchical systems mean that change in one component is likely to cause change in all the others. Additionally, the distance between higher- and lower-order regulators (that is, the decision making institutions within social organizations) results in delays in the transmission of information or a loss of information altogether. Such complex hierarchical systems are maladaptive because diversity and flex- ability progressively diminish in them, and the network of overspecialized, interconnected systems is ill equipped to deal with stress on lines of communication and production. When resources become exhausted or cannot be efficiently distributed, collapse or revolution ensues. For Rappaport, therefore, civilization is only an "unsuccessful experiment" (34).

Collapse as the Drastic Restructuring of Social Institutions: For the founding fathers of sociology - Marx, Durkheim, and Weber - the collapse of ancient states and civilizations was of little direct concern. Their general goals were rather to understand the nature of modern complex societies and to contrast them with primitive - relatively undifferentiated - ones. Such analyses were intended to account for the appearance and distinctive character of post-medieval European civilization and so to explain why such social systems had not appeared elsewhere. The collapse of ancient states and civilizations was considered essentially a prelude to higher developments. Marx, of course, argued that contradictions within a social order - especially between the forces and relations of production - can cause a society's breakdown and create the conditions for new levels of sociocultural integration. In Weber's multidimensional model of inequality and political struggle, the persistent nature of some social corporations was underscored even in the face of rapid transformation of other social components. These last observations have been thoroughly explored in a wide variety of historic

states by Eisenstadt. The main points of his investigation (35) are recapitulated here.

Eisenstadt argues that historic states are centrally organized with differentiated roles and activities existing within executive, military, and religious hierarchies. Political goals emanate from this center, but in establishing them the center also provides arenas of political struggle within itself. Tension between the center and periphery also exists, since the center is concerned with detaching the means for political action from the periphery, and groups on the periphery are reluctant to surrender their political autonomies. Eisenstadt's periphery consists of traditional aristocracies, kin-based units, peasants, and specialized economic groups, such as craftspeople and merchants. Recruitment to the center rests on either political or economic motives, both of which are detached from the qualities of individual. Indeed, the fundamental organizing principle of early states is precisely that which counteracts the traditionally ascribed ties that characterize much of the periphery. In order to support itself, the center must be able to garner "free-floating resources." That is, it must "disembed" from the periphery those goods and services not irrevocably bound within the subsistence and socially prescribed activities of those groups. In order to channel these resources to itself, the center must address concerns of the periphery through the establishment of judicial activities, by defending the society or expanding the society's boundaries, and by upholding the dominant cultural symbols of the entire collectivity. Thus the center attempts to legitimate the process and bit by bit withdraws goods and services from the periphery.

Stability in historic states and civilizations is maintained when the periphery considers that the resources it provides the center also return benefits to itself. These benefits may be material - the circulation of goods and services and orderly settlement of disputes - but also lie in manipulation of values and symbols that supply both this- and other-worldly well-being. The locally organized institutional structures of the periphery, however, were never monopolized by the state, neither in the bases of organization or in the internal management of productive resources. Although the political center, for its own goals, may seek to control the extraction, production, and/or distribution of certain key materials, the goods and services required by the state for its continued stability must be acquired from the traditionally organized groups that provide them only in return for some perceived benefits.

Collapse, in general, ensues when the center is no longer able to secure resources from the periphery, usually having lost the "legitimacy" through which it could "disembed" goods and services of process of those centralized institutions that had facilitated the transmission of resources and information, the settlement of intergroup disputes, and the legitimate expression of differentiated organizational components. The maintenance of those institutions demands a flexibility, a "resilience" of responses to stresses that are continually produced, often contradictorally, by the various competing local groups on the periphery and those within the center itself, as well as by external threats or expansionist policies. A "maximizing" strategy, in which the political center tends to channel resources and services for its own, rather than for societal, ends and in which support and legitimation from the periphery are therefore traditionally organized groups.The

collapse entails the dissolution of eroded, can lead to collapse. Economic disaster, political overthrow, and social disintegration are the likely products of collapse.

It may be further observed that successful methods of gaining political ascendancy do not necessarily ensure success in maintaining the political system. Political maintenance is achieved by broadening the means of support for the state by meeting needs and demands of old-line elites and by creating

institutions that effectively and legitimately restructure the production and distribution of resources. Especially critical for the stability of the state is the transformation of a loyal and personally ascribed cadre of supporters into a bureaucratic hierarchy in which self-perpetuation is subservient to ment of political goals (12).

After Collapse: An additional problem when considering collapse lies in assessing the sociopolitical organization of post-collapse societies. Do states and complex societies that have experienced collapse "devolve" to chiefly or tribal societies? If such ideas of reversion are rejected, what are the ways in which sociopolitical and economic organization are structured in periods of collapse?

In Norman Yoffee and George Cowgill's edited volume on collapse (12), many if not most of the contributors agreed that collapse is almost never total or complete. Shmuel Eisenstadt asserted (14), "Ancient states and civilizations do not collapse at all, if by *collapse* is meant the complete end of those political systems and their accompanying civilizational frameworks. Thus, the investigation of collapse in ancient states and civilizations really entails identifying the various kinds of social reorganization in these types of societies and so viewing collapse as part of the continuous process of boundary reconstruction." Such a statement could be viewed as controversial, but based on the sketches of the preceding pages, and an excellent summary by Colin Renfrew (36), the characteristics of societies after collapse may be summarized as follows.

There is, first and foremost, a breakdown of authority and central control. Prior to collapse, revolts and provincial breakaways signal the weakening of the center. Revenues to the government often decline. Foreign challengers become increasingly successful. With lower revenues the military may become ineffective. The populace becomes more and more disaffected as the hierarchy seeks to mobilize resources to meet the challenge.The former political center undergoes a significant loss of prominence and power. It is often ransacked and may ultimately be abandoned. Small, petty states emerge in the formerly unified territory, of which the previous capital may be one. Quite often these contend for domination, so that a period of perpetual conflict ensues (1).

The umbrella of law and protection erected over the populace is eliminated. Lawlessness organizational

the establishmay prevail for a time, as in the Egyptian First Intermediate Period, but order will ultimately be restored. Monumental construction and publiclysupported art largely cease to exist. Literacy may be lost entirely, or otherwise declines so dramatically that a dark age follows. What populations remain in urban or other political centers reuse existing architecture in a characteristic manner. There is little new construction, and that which is attempted concentrates on adapting existing buildings. Great rooms will be subdivided, flimsy facades are built, and public space will be converted to private. While some attempt may be made to carry on an attenuated version of previous ceremonialism, the former monuments are allowed to fall into decay. People may reside in upper-story rooms as lower ones deteriorate. Monuments are often mined as easy sources of building materials. When a building begins to collapse, the residents simply move to another (1).

Palaces and central storage facilities may be abandoned, along with centralized redistribution of goods and foodstuffs, or market exchange. Both long distance and local trade may be markedly reduced, and craft specialization end or decline. Subsistence and material needs come to be met largely on the basis of local self-sufficiency. Declining regional interaction leads to the establishment of local styles in items such as pottery that formerly had been widely circulated. Both portable and

fixed technology (e.g., hydraulic engineering systems) revert to simpler forms that can be developed and maintained at the local level, without the assistance of a bureaucracy that no longer exists (1).

Whether as cause or as consequence, there is typically a marked, rapid reduction in population size and density. Not only do urban populations substantially decline, but so also do the support populations of the countryside. Many settlements are concurrently abandoned. The level of population and settlement may decline to that of centuries or even millennia previously.

In a complex society that has collapsed, it would thus appear, the overarching structure that provides support services to the population loses capability or disappears entirely. No longer can the populace rely upon external defense and internal order, maintenance of public works, or delivery of food and material goods. Organization reduces to the lowest level that is economically sustainable, so that a variety of contending polities exist where there had been peace and unity. Remaining populations must become locally selfsufficient to a degree not seen for several generations. Groups that had formerly been economic and political partners now become strangers, even threatening competitors. The world as seen from any locality perceptibly shrinks, and over the horizon lies the unknown (1).

Conclusion: In reviewing the literature on the collapse of ancient states and civilizations, we see that the term *collapse* connotes for many, something quite different and simpler - namely, an end of things - than the complex set of problems we are trying to explore. Thus, in the study of collapse we have already referred to the phenomena of political decomposition, institutional restructuring, and social transformation. It is clear that it cannot be assumed that everyone understands the same thing by *collapse or the end* of a civilization.

We have proposed, that in turning to phrases that refer to the termination of something, rather than to its deterioration, it is useful to distinguish between two semantic categories: those that denote the collapse or end of a civilization and those that refer to the collapse of a state. To speak of the end of a civilization, therefore, would be, among other things, to the termination of that "great tradition," in context with the Indus Valley, the cultural continuum from sixth millennium BC onward to the end of the third millennium BC. Such cases are indeed rare and are represented only by the Indus and the Mesopotamian examples. In contrast, the collapse of a state is a phrase with obvious political reference - the falling apart of a large, centralized political system into a number of smaller, politically autonomous units in which permanent specialization of governmental roles is no longer in evidence. For the study of the collapse of the Indus Civilization, the political aspect is of much less important than that of the social order because we are not sure what type of political structure the Harappans were living in and what was the political landscape after the collapse.

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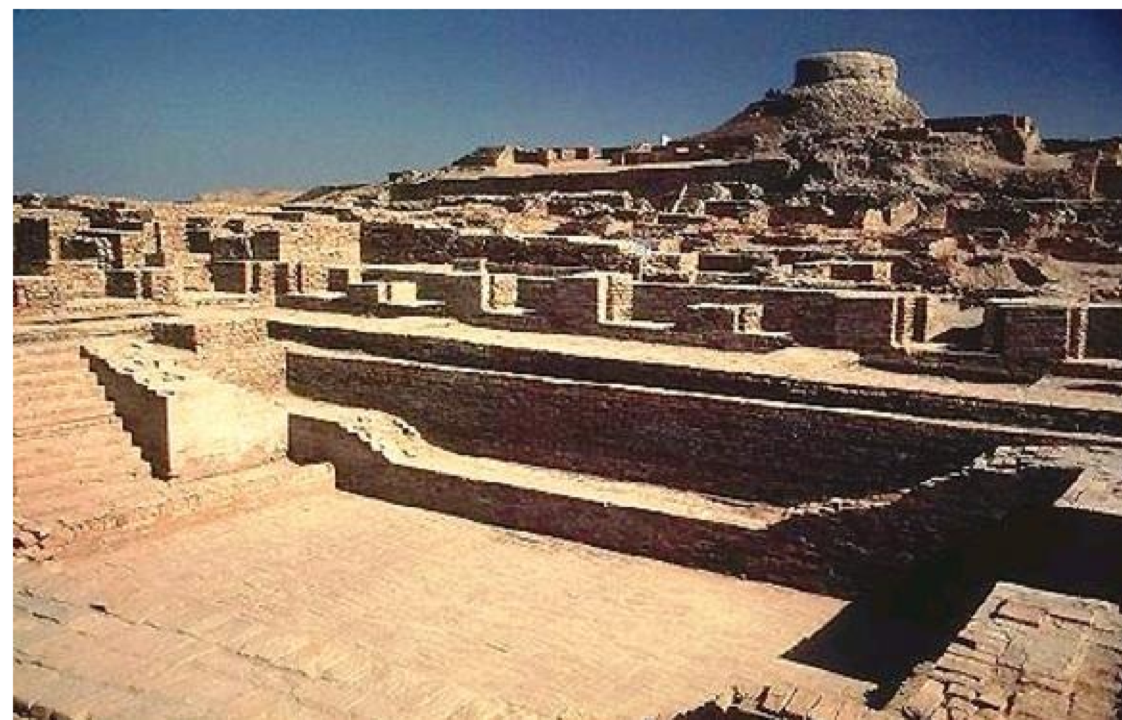
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Chapter 2.

What Was it that Came to an End?



Havingdonewithgeneralities,letus come to the Harappan Civilization itself**.** Ratnagar asks the question: What was it that came to an End? (1). What was that which disintegrated, what was it that collapsed? This is a pertinent question as it sets the tone and direction of our enquiry. First of all, it is the material culture that largely vanished. Second, and probably more important, is the cultural homogeneity that was manifest over such a vast area and for such a long time went into pieces, culminating in a number of localized cultures. Third, the settlement pattern drastically changed; the population density took a nose-dive, and we see a distinct move of the people to the East. Fourth, the internal as well as external trade came to almost at halt. Fifth, the political arrangement, a state or probably a confederation of city states, disintegrated into kin-based, largely non-differentiated social groups. All of this can be encapsulated in one basic change: the socio-political complexity of the Harappan society came to an end. The vast homogenous culture, that was essentially urban in character, was replaced by several regional cultures, which were thoroughly 'rural'; that is, a complex society got transformed into a much simpler society. Since the Harappan Civilization was the culmination of a long cultural tradition, starting from seventh millennium BC, the whole Indus Age came to an end.

There is no written records from the Harappan Civilization, hence all of our evidence necessarily comes from archaeology. This provides us some essential signposts to the origins and growth of Harappan cities and towns. To augment this information, we also use the evidence from other civilizations which have been studied more extensively and for which the evidence is much more detailed. This is especially useful in the interpretation of what we see in our archaeological record. Similarly, the process of decay and disintegration is seen in dilapidated cities and abandoned settlements. This process started earlier in some regions, such as Punjab and Sindh, while in other regions, such as Kutch and Gujarat, it started somewhat late. The signs of decay and demise are diverse but some general trends seem to be common.

The starting point for our study of decay and disintegration of the Indus Civilization, in fact the whole Indus Age, is its urban period (the Mature Harappan) at its peak. Archaeologists list a score of distinct

characteristics that identify this reference point.
1. Characteristic written materials and seals. 2. Beads and other jewelery.
3. Standardized brick sizes in ratio of 1 x 2 x4 4. Planned towns with citadels, platforms. 5. Standardized weights.
6. Black or red painted pottery.
7. Parallel sided blades.
8. Copper and bronze articles.
9. Terracotta toys.
10. Cultivation of cotton, barley and wheat.

As is well-known, the Harappan Civilization has a long precedent in Baluchistan, Sindh and Punjab. It began in settled communities of food producing people *ca*. 7000 BC in the Kachi plains at the border of Sindh and Baluchistan. Here the site of Mehrgarh, excavated in 1970s, is of utmost importance. These early Neolithic settlements gave birth to a large number of small and medium size agricultural villages all over the Indus plain by 4000 BC, some of which later transformed into large towns. By 2500 BC, within a small time interval of about 100 to 150 years, several cities emerged and the society was transformed from a strictly argo-pastoral society into an urban civilization. However, the first large cities arose, not close to Mehrgarh but on the Indus plains.

Around 1900 BC the civilization went into a rapid decline and the last of the cities were deurbanized by 1700 BC. This process was marked by the disappearance of most of the features that had distinguished the Harappan Civilization from its predecessor cultures: writing, city dwelling, some kind of political control, regional and international trade, occupational specialization, architecture, and widely distributed standardized artifacts. Local materials started to be used for objects like stone tools, and the cultural uniformity of the Indus Civilization gave way to a number of regional groupings, often using material reminiscent of that belonging to the pre-urban phase in each area. While there was considerable depopulation in the Indus heartland, settlements increased in number in Gujarat, and other communities. New settlements were established in areas well outside those occupied by the Mature Harappan people, particularly in the East. The Pathway region and the Pashtun country continued to be occupied by small groups of argo-pastoral people with diverse cultures.

Early in the second millennium BC, by about 1800-1900 BC, the city of Harappa and its counterpart in Sindh, the grand city of Mohenjodaro, were no longer functioning urban centers. The Indus Civilization came to an end as a complex socioeconomic system. Human life continued on the plains and in the hills and mountains surrounding the plains but the people were no longer organized by class and occupational specialization. While there was continuation of life, there was also much change. The people seem to adopt new customs and living habits, their beliefs apparently changed, and what little we know about this period, some new peoples started to make inroad into the Indus territories and under their influence the Indus people began to adopt new cultures and probably new language. Gone were the town planning, gone were the sewage system, gone were the seals, gone was the script, and gone was the Indus style in pottery form and decoration. Along with this all, the regional and interregional trade and commerce stopped; there were no more trade caravans going westward and there were no ships sailing to Delmun or to Mesopotamia. The crisis led to a cessation of the hallmarks of Indus elite culture. The distinctive pottery with ritual motifs and Indus script and traditional square seals with unicorn and other animal motifs disappeared. Cubical weights for taxation and trade fell into disuse, shells from the coastal regions no longer made their way to the northern sites, and lapis lazuli from the north failed to reach the sites in the plains. In Mesopotamia

the texts that had recorded ongoing trade with a region called Meluhha, which is probably the Indus Valley, no longer mentioned it.

Thedisintegrationoftheurbanculture means the end of an integrated and complex social, economic and political system, carrying with it a decline in social stratification, erosion of economic specialization, the eclipse of regulatory institutions and the flow of information, the city life that embodies the sophistication of the civilization, and, ultimately, what Tainter (1) calls the epiphenomena: the public monuments and art production. Paradoxically, it is often these 'epiphenomena' by which ancient civilizations are known to us, and it is their disappearance in the archaeological record which we miss with this civilizational collapse (2).

As already stated, the decay and demise of the Harappan Civilization is evident from a visible change in the material record. First, numerous Harappan settlements in the core areas of the Greater Indus Valley (Sindh, Punjab and Cholistan) are abandoned. For example, from Mughal's survey in the Hakra Valley (5), it appears that out of 83 Harappan habitation sites, only one continued to be occupied and 27 new settlements were established in the later period; a far smaller range of raw materials, and that too more locally available, appears to have been utilized. Along with it, the diversity of types of artifacts decreases. It appears as though the civilization has taken a giant step backward.

Previously scholars argued that the Indus cities were suddenly abandoned around 1750 B.C., but recent work at Harappa has clearly demonstrated that during the late phase of the Harappan Civilization, from 1900 to 1500 B.C., Harappa was indeed inhabited. But the remains suggest that the ruling elites were no longer able to control the day-to-day functioning of the urban center. This loss of authority must have eventually led to reorganization of society, not just in Harappa but throughout the entire region that the upper classes had dominated for 700 years. Similar changes were occurring at other big cities such as Mohenjo-daro to the South and Dholavira in the neighboring area of Gujarat in the presentday India.

Recent archaeological excavations indicate that the decline of Harappa drove people eastward. Numerous Harappan settlements in the core areas of the Greater Indus Valley (Sind, Punjab and Cholistan) are abandoned. From Mughal's survey in the Hakra Valley, it appears that out of 83 Harappan habitation sites, only one continued to be occupied and 27 new settlements were established in the later period; a far smaller, and that too based on locally available materials, giving rise to much narrower range of raw of artifacts. At the same time the number of sites in neighboring areas in the Indo-Gangetic Divide increased from 218 to 853, although most of them really small.

What happened and why? There is no one answer to this question. The issue is still being debated and this book reviews the theories which have been offered. In the meantime, what can we say is as follows: The Indus Civilization arose as a social, economic and cultural phenomenon, produced by the build-up of population on the fertile Indus plains and the hilly slopes of the surrounding areas in the West. The resultant urban society was a delicate balance of internal relations between cities, towns and villages, and of external relations with neighboring peasant and pastoral societies and more distant urban cultures. The end of the urban phase was probably triggered by some major upset of this balance. Such an upheaval could have been produced by any one or more of the causes one can imagine, operating either alone or in combination. In other words, just as the creation and maintenance of the system was the outcome of the successful combination of several factors, so too

its breakdown could have been caused by the weakening of any one of these or the upsetting of their harmonious balance and interaction. Whatever they may have been, what is beyond doubt, and what from our point of view is of primary concern, is that at a certain point the urban phenomenon came to an end. There is no use in calling it a ‘transformation’, as Possehl and Kenoyer are prone to. Civilizations arise; they also fall and come to an end. So was the Hartappan Civilization or the whole Indus Age.

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Somearchaeologistshaveemphasized that, just as in most areas of the world, there was a continuous series of cultural developments in the Greater Indus Valley and across the Divide, without any cultural break. These continuities are, however, hard to find (2) and this interpretation of post-Harappan history is a matter of debate. First, there is no obvious signs of a “cultural continuity” between the demise of the Harappan culture and the reemergence of villages and towns within the Indus Valley and across the border. Second, the increase in the number of “Harappan” settlements across the Divide may not be Harappan after all. Instead, they are more like Neolithic-Chalcolithic settlements with some minor vestiges of the Indus rural culture. Third, there is long period of time between the end of the Indus urbanism and the rise of towns and cities in the Ganga-Jamuna plains. Fourth, the reemergence of towns and cities in the subcontinent did not begin in the Gangetic plains, cities reemerged first in the north of Punjab, in the so-called Gandhara country and these cities, such as ancient Charsadda and Taxila, had no cultural familiarity with any of the Harappan cities.

In order to answer the question: what was it that came to an end, there is a formidable record of archaeological work on the Indus Civilization at our disposal. Basic surveys of the Indus Civilization are available in a number of sound sources; some of them are listed in the Bibliography at the end of this volume. The older books by Wheeler (3) and Piggott (4) are still useful sources on selected topics. A number of good bibliographies on the topic are also available (5,6,7,8). The Volume III (*Harappan Civilization - The Material Culture*) of this series could be a good start. This wealth of data makes it impossible fully to review Pakistan’s earliest cities, and perhaps its first state. Only a general review is provided. Since the Harappan culture can be understood only through a wider context of the Great Indus Tradition, we begin our survey within this context.

We should not assume, however, that all aspects of life associated with the Harappan came to an end. Those aspects related to the urban living do disappear, but others, connected with basic subsistence practices or technologies seem to continue. Those social institutions that may have been created to forge ties between non-kin within urban settlements and between distant settlements appears not to have taken root. With the end of the Harappan Civilization, these social institutions too collapsed, resulting in a reversal to tribal institutions that we note in the following period and that we believe existed before urbanization.

The speculation on the decay and demise of the Harappan Civilization is an interesting exercise, so is the musing on the non-urban regional cultures that replaced this splendid civilization. The most interesting is, however, the research on the legacy of the Indus Age and its effect on the subsequent cultural development within Pakistan and the peripheries in the present day India on one hand and Afghanistan and Iran on the other. We would come back to these topics as we proceed in the following pages. Here we want to focus on the question: what was it that it came to an end? This is a pertinent

question since without knowing what was lost we can determine what was found. Although the question concerns mainly with the urban phase of the Indus Civilization and its immediate aftermath, for a better understanding we need to go a little back in history and get some idea of the process of urbanization.

Although our focus is on the Harappan Civilization at its peak, a brief look on human settlement that preceded urbanism is essential in appreciating the underlying foundation of this civilization. Understanding how the Indus Civilization emerged and how its political economy functioned requires taking a long-term perspective and tracing out developments that led to the settlement of cities. This also helps to relate to the untangling of the cultural complex during the process of decay and demise of the civilization.

The Indus Age: The Harappan Civilization is the urban phase of a much longer cultural process that began with the development of agriculture and sedentary living in Baluchistan *ca.* 10,000 years ago and ended with the demise of the high urban culture *ca.* 2000 BC. This long period of the Indus culture is sometimes called the of the Iron Age between 500 and 1000 BC. Both of these terms allow a much wider
frame of reference for the spatial and temporal patterns of site formation within the

regions of the Greater Indus Valley. Both terms are appropriate but the *Indus Age* seems to be preferable as it puts a really long period of time into an organic whole which can then be studied with a sharp focus on its individual components. In this connection,

Great Harappan Tradition; Possehl has very apculture, document traits which become prominent
propriately named it the *Indus Age*. It is essenPossehl also introduced the concept of cultural 'phases' with somewhat fuzzy contoursin the Mature Harappan, though not all of this to replace the rigid archaeological 'periods'. We shall follow this line of thought in the
tially an archaeological construct based on an area become incorporated within the boundaries following
discussion. assemblage of material culture, which can be asof the latter. There is evidence at this stage for
sociated with a subsistence regime, patterns of larger sites with a greater degree of order
andChalcolithic, and Bronze Age periods: this region to the east of Pakistan seems to have
trade and communication, socio-cultural instituTable 1.2 General Chronology of the Indus Valley
Tradition more complex buildings than in the earlier, simpleentered the Iron Age directly from the Paleolithic/Chalcolithic stage of cultural
tions, and a geographic area. In some ways, the villages. Goods such as marine shells and lapis development without directly experiencing a bronze age of civilization.
Indus Age is like the old notion of an archaeologilazuli whose sources are known at long distances In passing, it may be noted that some of the post-independence Indian scholars have
cal 'culture', a term rarely used in today's anthro
pological archaeology, due to the fact that we now
testify to a system of long distance exchange.
started to increasingly call Indus Bronze Age as "Indian Chalcolithic culture". Their6,500 to 5,000 BC
argument is technical: chalcolthic is the cultural period when stone tools coexist with Evidence for craft production, fortifications, and
realize that there is a significant difference becopper and bronz tools and that the former predominate in proportion to the latter. This street planning all are suggestive of the kind of

Regionalization Era (Early Harappan Phase) 5,000 to 2,600 BC
tween the reality of culture, as it is dealt with indefinition, is however, applied by these scholars specifically to the Indus Civilization culture that was to emerge.
Integration Era (

the contemporary life, and archaeological recon**Harappan Phase**) while the other Bronze Age civilizations, where the use of copper and bronze tools was **2,600 to 1,900 BC**Early Harappan phase sees the developstructions of culture.even less in proportion to the use of stone tools, are still referred to as the Bronze Age regional styles which may represent1,900to1,000BC
Localization Era (Post-Harappan Phase) ment ofcivilizations without any reservation. At a time when the widespread use of stone tools in the Indus Civilization is being pointed to, the discoveries of some isolated copper and Table 1. Chronology for the Indus Age per PossehlTable 1.1 Chronology for the Indus Age

competitive groupings, discussed in Volume II (*A Prelude to Civiliza*As Possehl informs us, the phase is an archaeological construct based on an assemblage*tion*) in greater details. Briefly of material culture, which can be associated with a subsistence regime, patterns of trade speaking, during the Early Harapand communication, socio-cultural institutions, and a geographic area. In some ways, pan period (*ca.* 3200–2500 BC)

the phase is like the old notion of an archaeological 'culture', a term rarely used in
Kili Gul Mukhammad 7,000 - 5,000 BC raneoustoday's anthropological archaeology, due to the fact that we now realize that there is a
Basked-Marked Phasesignificant difference between the reality of culture, as it is dealt with in the5,000 - 4,300 BC
there were four roughly contempoarchaeological cultures (Kot Dijian, Amri-Nal, Damb Sacontemporary life, and archaeological reconstructions of culture. Phases are not defined daat, and Kulli) without large setby a chronology, either relative or absolute; but a chronology can be ascribed to them.tlements or strong signs of urbani
KechiBegPhaseThe independent variables in this equation are the artifacts and activities of ancient 3,800-3,200BC cialization
peoples. The dependent variables are the relative and absolute chronological facts thatvisible.
zation. Some degree of craft spestarts to be already Hakra Ware Phase 3,800 - 3,200 BC
archaeologists gather as a part of their research on these activities and peoples. Based on several comparativeEarly Indus Period studies and occasional radiocarBased on several comparative studies and occasional radiocarbon dates, one can discern
Amri-NalPhase 3,200-2,600BC bon dates, one can discern thethe approximate chronology of the Indus Age as depicted in Table 1-1. This schematic
KotDijiPhase 3,200-2,600BC approximate chronology of the Quetta Ware Phase

3,200 - 2,600 BC

Indus Age as depicted in Table 1. This schematic has been exKulli Phase 3,000 - 2,000 BC tracted from Possehl but edited to **Harappan Period 2,600 - 1,900 BC** suite the current discussion. The

Post-Harappan Period
2,000
-
1,000 BC

chronological scheme presented in this Table is basically linear, with pattern of change presented as

The Harappan Civilization: Going back in time and tracing the origins Within the gambit of the Indus Age, we define the urban phase of thethough they took place simultane Great Indus Tradition as the bronze articles in continental India are highlighted. The application of the technical ously over vast areas of Pakistan.This is certainly of the Harappan society, our evidence for the se
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Mature Harappan (as opposed to the Early Harappan and Late-Harappan),
a "parity" with the Indus not the historical reality of the time. For example, or simply the Harappan Civilization. It covered more-or-less the same area as its antecedent cultures did.
Valley, which is ultimately the aim. Chalcolithic, like Bronze Age, is a cultural term: in it is unlikely that the transition from the Stone AgeThe Harappan Civilization was a Bronze Age civilization, along with ancient Egypt and Mesopotamia. It
this sense, ancient Pakistan did pass through a chalcolithic period but interestingly the
flourished in the basins of the Indus plain and the Ghaggar-Hakra basin, which is now dry. At its peak, theor from Hunter-gatherers to food producers or
settled occupation with agriculture from at least
Harappan Civilization may have had a population of over 5,000,000. Inhabitants. The Indus cities areeven from the Early Harappan to the Mature the seventh millennium BC, gradually developingPage 18
noted for their urban planning, baked brick houses, elaborate drainage systems, water supply systems,
a more sophisticated material culture, trade, and Harappan began at the same time in all regions of
and clusters of large non-residential buildings. Among the settlements were the major urban centres of
complexity of social organization (15). Although the area. Archaeologists do not really know when,
Harappa, Mohenjo-daro, and Ganweriwala in Pakistan and Dholavira and Bananwali in borderline areas
in India. this beginning seems to be an indigenous phe
nomenon, archaeologists have drawn our atten
for instance, the Kechi Beg Phase or the one called the Tagau Phase began. Even the notion
that the stages and The Harappan Civilization encompassed most of Pakistan and thehave something neighboring parts of India, generally along the current Indo-Pakistan borders. To the West, its area of phases
tion to the strong ties between the material re called a beginning and an end is a debatable
influence extended as far as the Hindu Kush Mountains in northern Afghanistan. Its western boundaries mains here and sites in eastern Iran and Central concept. were more or less the same as the present Indo-Iranian borders.
Asia even at this early time period. Shaffer and Kenoyer divides the chronol
To date, over 1,000 "Harappan" cities and settlements are said to have been found, mainly in the
By the fifth millennium BC, there is evi ogy for the Indus Valley Tradition (approximately general region between the Indus and the Ghaggar-Hakra plains. Flourishing in this vast area, the
dence for larger buildings representing some form equivalent to the Possehl's Indus Age) into four civilization was spread over an area of some 1,000,000 km!, making it the largest ancient civilization in
of communal activities at Mehrgarh. By the fourth *ca.* the world. The essential features of the land of the Harappan Civilization was the Indus River and its Eras (Table 2). The Early Food Producing Era (

millennium BC there are sites spread throughout 7000-5500 BC) is a time when domestic plants tributaries. They included, besides the Kabul, Swat, Jhelum, Chenab, Ravi, etc, the river Sutlej which is the area covered by modern Pakistan, with reand animals are first exploited in the Indus Valley. now almost entirely

in India. The Indus tributaries also included a braided river system which is now

gional sequences showing signs of growing comThe Regionalization Era, (*ca*. 5500-2600 BC) corlargely dry. Its bed lies partly in India (in Haryana, Indian Punjab, and northern Rajasthan, all along the
plexity there too. These have been grouped under
Indo-Pak borders) and partly in Pakistan (mainly in Cholistan, down to Fort Derawar in Bhawalpur
responds to a period of regional cultural developthe general label of "Early Harappan" on the ment that is subdivided into various Phases degrounds that many of these developments, suchfined by specific artifact styles and regional culas town walls and stylistic features of material tural interaction. The next era Kenoyer calls the
transition from the Stone Age or from Hunter-gatherers to food producers or even from the Early Harappan to the Mature Harappan began at the same time in all regions of the area. Archaeologists do
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not really know when, for instance, the Kechi Beg Phase or the one called the Tagau Phase began. Even the notion that the stages and phases have something called a beginning and an end is a debatable concept. Introduction!
Kenoyer ()Indus Chalcolithic period followed the Bronze Age instead of preceding it. some parts of divides the chronology for the Indus Valley Tradition (approximately equivalent to the older traditions of the

Possehl's Indus Age) into four Eras (Table 2). The Early Food Producing Era (ca. 7000-5500 BC) is a time
time generally associated with the term "Indus greater Indus region survived. There was little
when domestic plants and animals are first exploited in the Indus Valley. The Regionalization Era,

The Indus Age Valley Civilization" or the "Harappan Civilization". economy (16), and ar(5500-2600 BC) corresponds to a period of regional cultural development that is subdivided into various change in subsistence

This Era is characterized by the emergence of chaeological record shows that virtually all the
Phases defined by specific artifact styles and regional cultural interaction. The next era Kenoyer calls the
It is instructive, in fact imperative, to look at the Harappan Civilization in context with
numerous urban centers and smaller regional familiar items that are found in the urban phase towns and, as stated above, at this time we seethe cultures preceding it and of those following it, thereby placing the Harappan Integration Era (2600-1900 BC) and is the time generally associated with the term "Indus Valley
Civilization" or the "Harappan Civilization". This Era is characterized by the emergence of numerous
are found somewhere in the Early Harappan pe
the common use of a writing system found primar
urban centers and smaller regional towns and, as stated above, at this time we see the common use of athe *Indus Valley Tradition*. This term has riod. Thus, the Harappan Civilization representedacquired currency among some North American archaeologists, especially with Shaffer,
writing system found primarily on pottery or on inscribed seals and tablets. Standardized cubical stonea fusion of elements from previous regional tradi
Kenoyer and Kennedy to include "all human adaptations in the Greater Indus Valley
weights are found at all major sites along with similar styles of pottery vessels and a wide range of other tions, resulting in a much more homogeneous region from around 6500 BC until 1500 BC". Possehl coined a term, the
objects. Various categories of evidence, some of which we will discuss in the followings, indicate the*Indus Age*, to material culture than before. This transformation presence of distinct social and

economic classes, both within the cities, as well as in the surroundingdefine more or less the same prehistoric period of ancient Pakistan, more specifically
vessels and a wide range of other objects. Variwas achieved over an area previously unmatched
hinterland. Perhaps even more important is the evidence for political and ideological integration of major
that between the rise of agricultural villages in the fifth millennium BC and the dawning anywhere in the Old World. Over a million sq. km,settlements and the emergence of what may be termed *state*.of the Iron Age between 500 and 1000 BC. Both of these terms allow a much wider
discuss in the followings, indicate the presence of the area covered by this civilization, is larger than The final Era of the Indus Tradition is referred to as the Localization Era (1900-1300 BC).
frame of reference for the spatial and temporal patterns of site formation within thethe combined upper and lower Egypt or alternaDuring this time there is evidence for major transformations in the socio-economicseemsand political
organization of cities and regional settlements. While there are some important continuities that link this regions of the Greater Indus Valley. Both terms are appropriate but the tively the total area of Sumer, Akkad, and Assyria; to be preferable as it puts a really long period of time into an organic whole which canits center being the Indus River but spreading
period with earlier culture, there are nevertheless significant changes in technology and production thateastward up to the edges of the Indus basin, tothen bepolitical and ideological integration of major set

are in turn linked to changes in stylistic and symbolic aspects of the material culture. The most significant changes are seen in the disappearance of Indus writing, standardized weights, and the breakdown ofPossehl also introduced the concept of cultural ‘phases’ with somewhat fuzzy contoursthe north across the Punjab, and to the west termed *state*.to replace the rigid archaeological ‘periods’. We shall follow this line of thought in the across the Pashtun country into the Hindu Kush following discussion. closing a vibrant era of ancient Pakistan. By 1500 BC, the Indus Age starts giving way to several localizedmountains. A relatively

cultures and by 1000 BC the whole Indus Age comes to an end.
Table 2. General Chronology of the Indus Valley Tradition per Shaffer and
Table 1.2 General Chronology of the Indus Valley Tradition

uniform range of pottery styles and other types of Kenoyer material culture, including seals and ritual symbols, has been found at Early Food Producing Era (Neolithic/Chalcolithic) 6,500 to 5,000 BC more than 500 sites

Regionalization Era (Early Harappan Phase)
5,000 to 2,600 BC
spread throughout the Greater Indus Valley. Integration Era (**Harappan Phase**) **2,600 to 1,900 BC** At the same time, Localization Era (Post-Harappan Phase)

there was a radical 1,900to1,000BC change in social organi
zation; the kinship rela

As Possehl informs us, the phase is an archaeological construct based on an assemblagetionships, which were the

The final Era of the Indus Tradition is hallmark of the Indus society till then, changed to of material

culture, which can be associated with a subsistence regime, patterns of trade
referred to as the Localization Era (1900-1300 a transactional relationship between strangers. and
communication, socio-cultural institutions, and a geographic area. In some ways,
BC). During this time there is evidence for major The society as a whole became complex and the
phase is like the old notion of an archaeological 'culture', a term rarely used in
transformations in the socio-economic and politipeople became more and more interdependent
today's anthropological archaeology, due to the fact that we now realize that there is a

cal organization of cities and regional settlements. on each other for their economic activities. A sec
significant difference between the reality of culture, as it is dealt with in the
While there are some important continuities that tor of the population left food production alto
contemporary life, and archaeological reconstructions of culture. Phases are not defined
link this period with earlier culture, there are nevgether and became specialized craftsmen, arti
by a chronology, either relative or absolute; but a chronology can be ascribed to them.
ertheless significant changes in technology and sans, or engaged in full-time trading activities.
The independent variables in this equation are the artifacts and activities of ancient
production that are in turn linked to changes in These non-producers were sustained through the
peoples. The dependent variables are the relative and absolute chronological facts that
stylistic and symbolic aspects of the material culfood surplus that was extracted from the surarchaeologists gather as a part of
their research on these activities and peoples.
ture. The most significant changes are seen in the rounding peasantry by an elite through coercion
disappearance of Indus writing, standardized or through persuasion. The nature of this 'surBased on several comparative
studies and occasional radiocarbon dates, one can discern
weights, and the breakdown of long distance plus', the composition of the 'non-producers', and
trade. In other words, the Harappan Civilization
the approximate chronology of the Indus Age as depicted in Table 1-1. This schematic
the ways and means of extracting and redistribut

comes to its end and set the stage for closing a
vibrant era of ancient Pakistan. By 1500 BC, the Page 19
Indus Age starts giving way to several localized
non-urban cultures and by 1000 BC the whole
Indus Age comes to an end.

Indus Urbanization: At about 2600–2500
BC a transitional stage occurred between the pre
urban and the urban cultures, during which most
of the complex sociocultural institutions of the In
dus Civilization came together. The urbanization
that occurred, happened rather suddenly, over a
period of about a hundred years. After a short pe
riod of growth and change, the peoples of the
Greater Indus Valley created cities, a writing sys
tem, and most likely a class-stratified society. Of
ing the surplus distinguish the Harappan Civilization from the other contemporary civilizations.

This urban stage signifies radical economic and socio-political changes. The economic base is very

crucial, for now had come into existence efficient means of production, including metal technology and alloys, which were systematically exploited. This was possible because of the presence of specialists in the non-agricultural population. The extensive evidence of trade and commercial exchange implies equally extensive developments in the realm of socio-religious, political, and ideological exchange. We know that between West Asia and Indus Valley settlements, such exchanges were no doubt taking place. Intermediary regions gave impetus to trade, controlled the exchange of raw material, metal technology and various goods. All these processes taken together led to different levels of sociocultural complexities, and to that of urban revolution.

Integral to this change was the social division of labor, especially manifest in the city where people interacted less as kin than as people dependent on one another for goods or services. People came to have many other interactions - albeit momentary - with others, and to play a greater number of roles in society. This in itself entailed the advent of new phenomena like public buildings and public utilities, high-built citadels for elite activity/residence; new mechanisms for communication with non-kin; and methods of recording and accounting, the last entailing the use of writing. Seals were devised as marks of identity and authority in this world in which exchanges were not always with known persons, and generally of an impersonal nature. Some of these notations no doubt served as magical spells to ward off evil or to invite prosperity.

Lamberg-Karlovsky (17) and Ratnagar (18), among others, have discussed various aspects of trade between the Indus Valley, the Persian Gulf, and Mesopotamia, which in the wider sense means a reciprocal traffic of materials or goods directed by human agencies from one place/or individual to another. It is interesting to note that informal non-centrally-administered processes gave impetus for the development of sociopolitical relations not only between West Asia and the Indus Valley but also within the sphere of each civilization. Thus, it is by the beginning of 3000 B.C. due to the stimulus of reciprocal trade and of the sources that there is a nucleation of such centers such as Kulli, Amri, Kot-Diji, etc., leading to a culmination in the mature Harappan Civilization.

At this stage the Indus Valley appears as one of a number of areas moving toward a greater degree of social complexity and urbanization. Much continued as before in the villages, but there were now also exchanges with the emerging towns and exposure to the demands of the elite for labor service; there were new craft items aboard, new tastes and consumption patterns evinced in the lifestyles of the elite, and new artistic and intellectual norms. Constituent communities ranged, in a folk-urban continuum, between the tribal communities, the peasant villages, supra-village chiefdoms, the defensive outposts, and the culturally diverse cities. We also see the emergence of rituals, magic, shamans, and all that which goes by the name of religion. This was also the time during which the Indus ideology, or world view, began to emerge. This urban stage signifies radical economic and sociopolitical changes and it is in this context that the idea of ‘explosive emergence’ of Harappan Civilization may be seen.

As the Indus Valley was being urbanized, its contacts with the outside world intensified and these economic relationships, especially with equally urbanized society of Mesopotamia, must have helped in furthering the ongoing processes of social development in all these societies. The areas of Western Asia may, thus, have played an important, although indirect, role in generating the processes of concomitant socio-political development as a feed-back system. Of course, this is not to deny the major contributions of the regional Indus cultures, that preceded the Harappan urbanism. Daniel Miller, in one of his lengthy articles (13) deals with a merchant class that emerged through a sequential growth during the Early Harappan period and got strengthened as the process of

urbanization got its momentum. This economic elite, in conjunction with a large array of artisans, then shaped the Harappan society which was sustained for half a millennium in the Indus Valley and the surrounding areas.

The process of Harappan urbanization is believed to be an accelerated one. Possehl (19) has pointed out that in a small time interval of about 100 to 150 years around 2600 BC, the society seems to have transformed from Pre-urban to urban with sudden emergence of the following features:
1) writing on well designed and carefully made

seals with high quality animal motifs; 2) town planning and development of:
a) massive brick platforms,
b) well-digging,
c) drainage system,
d) City planning
3) appearance of widely used system of weights
and measures;
4) other changes in a wide variety of lifestyle material such as ceramic corpus;
5) new art forms and stylistic growth such as new
human and animal figurines;
6) distinctive Harappan black-on-red slip painting
style;
7) core trends of urbanization such as:
a)social stratification,
b)apparent emergence of political cotrol,
c) craft and career specialization,
d) creation of cities and a new form of social
regulation.
Possehl notes that these changes were in continuity rather than discontinuity.
Politically, it seems that around 2500 BC, the Indus society transformed from a collection of autonomous villages to a loose confederation of city-states or even to a territorial state (see Volume IV for this discussion). All this seems to be arising from internal dynamics but, as stated above, the contemporary civilizations to the West of the Indus Valley may have also played an important role. Possehl (20) has listed more than 2,000 sites that were part of the region that marks the spread of the Harappan Civilization at its peak. However, most of these sites are small to medium sized settlements and more than 10 sites have an area exceeding 0.5 sq.km. The urban centers continue to be surrounded by smaller sites indicating that the formation of an urban center neither stunted the sustenance of small habitation sites nor did it destroy them. This suggests that the relation between the urban and rural sites must have been more symbiotic rather than adversarial.
The people of the Indus Valley were not alone in this pursuit of urbanization; other peoples in Mesopotamia, Iran, and Central Asia were also going through these changes toward civilization, although their regional sequence were somewhat different. A number of well-developed urban cities arose in Mesopotamia and quite a few population centers developed in Central Asia and Iran which eventually lead to highly developed incipient state-level societies with towns and monument structure. Most significant were Shahr-e-Sokhta and Mundigak in the Helmand area (21) and *Tepe Yahya* and *Namazga Tepe* in Central Asia. Complex settlement hierarchies, specialized crafts, and the kind of production and control over goods similar to the Indus Valley are evident. In some cases the influence of the core region of Mesopotamia and the Indus Valley can be directly adduced. These intermediary

regions gave impetus to trade, the exchange of raw material, and metal technology. All this suggests that various civilizational spheres were interacting with each other at cultural, economic, social, political levels. **The Material Culture:** Within the gambit of the Indus Age, we define the urban phase of the Great Indus Tradition as the Mature Harappan (as opposed to the Early Harappan and LateHarappan), or simply the Harappan Civilization. It covered more-or-less the same area as its antecedent cultures did. The Harappan Civilization was a Bronze Age civilization, along with ancient Egypt and Mesopotamia. It flourished in the basins of the Indus and the Ghaggar-Hakra plains. At its peak, the Harappan Civilization may have had a population of over 5,000,000. Inhabitants. The Indus cities are noted for their urban planning, baked brick houses, elaborate drainage systems, water supply systems, and clusters of large non-residential buildings. Among the settlements were the major urban centers of Harappa, Mohenjo-daro, and Ganweriwala in Pakistan and Dholavira and Bananwali in borderline areas in India.

The Harappan Country: The Harappan Civilization encompassed most of Pakistan and some neighboring parts of India, generally along the current Indo-Pakistan borders. To the West, its area of influence extended as far as the Hindu Kush Mountains in northern Afghanistan. Its western boundaries were more or less the same as the present Indo-Iranian borders.

To date, over 1,000 “Harappan” cities and settlements are said to have been found (some Indian archaeologists tend to push this number to 2,000), mainly in the general region between the Indus and the Ghaggar-Hakra plains. Flourishing in this vast area, the civilization was spread over an area of some 1,000,000 km^2, making it the most expansive ancient civilization in the world. The essential features of the land of the Harappan Civilization was the Indus River and its tributaries. They included, besides the Kabul, Swat, Jhelum, Chenab, Ravi, etc, the river Sutlej which is now almost entirely in India. The Indus tributaries also included a braided river system which is now largely dry. Its bed lies partly in India (in Haryana, Indian Punjab, and northern Rajasthan, all along the Indo-Pak borders) and partly in Pakistan (mainly in Cholistan, down to Fort Derawar in Bhawalpur Division). The remnants of the river system itself is called Ghaggar in India and Hakra in Pakistasn. There is a large number of Harappan sites in this area.

There is some controversy on the climatic conditions in the Harappan country. Sir John Marshall suggested that there was a period of somewhat higher rainfall in Pakistan and western India between 3000 and 2000 B.C., bur recent studies negate this suggestion. Although animals like the elephant, rhinoceros and tiger, which during the last few centuries have become extinct in the region, were known to the Harappan people, the long-term data show that the rainfalls have steadily decreased in this area from the beginning of the Holocene, that is, at the end of the Ice Age. In all appearances, the climate during the Harappan Civilization was not much different from that prevailing now - dry and hot.

The Indus Valley does receive a moderate rainfall from 125 to 625 mm a year. The precipitation in the northern hills is much higher resulting in the forested belt of the hilly regions. The hill slopes have grass lands which support sheep, goats and cattle. The flooded plains produced various kind of wheat, barley and oats. While sheep and goats dominate the archaeological record, cattle seems to the hallmark of the Indus. The Indus Valley has a character of its own that is derived from the build of the Himalayan chains which throw their off-shoots towards the Arabian Sea, thus providing a cultural context south of the Hindu Kush and between the deserts of Iran and Pakistan. Such a wide cultural zone shows variations in climate from extreme cold winters in the north to more mild temperatures along the seacoast. The environment of the Harappan people should be viewed in this context.

Harappan Cities and Towns: A distinguishing feature of cities is that they are homes to diverse social groups that are drawn to them as major centers of economic, political, and ceremonial life. We know from excavations that the urban Harappans lived in densely packed neighborhoods and engaged in

diverse occupations. Although Harappan society was largely agrarian, based on agriculture and animal husbandry, many specialist craft producers also lived in the city. The diversity in cities had social as well as economic and political dimensions.

Of the excavated settlements of the Mature Harappan, that which has dominated most accounts, being the largest, best preserved and most extensively excavated, is Mohenjo-daro. It has been amply described in countless books and articles. Briefly speaking, the major features of the site are as follows: It is divided into a higher mound conventionally called 'citadel' to the West, and a larger mound called the 'lower town' to the East. The orientation of both is north-south. It is clear from excavations that the lower town consisted mainly of residential and commercial buildings, and the major streets are aligned on cardinal points, while the citadel consists of, in the main if not entirely, of public buildings. These latter are arrayed on top of a high platforms built of solid mud brick with baked brick facings. The most striking of these public buildings, situated near the apex of the mound, is a large bath. The citadel is probably walled, although this has only been documented at one corner. Recent indications are that there was not one but more than one 'lower towns' and they were most probably individually walled.

Thesebasicfeaturesprovideamodel against which other sites have been compared. The only excavated site of comparable size is that of Harappa, around 600 km to the North. This site was much more poorly preserved, but as far as it is possible to tell, it was also divided into several mounds. Again, the main residential mound is to the East and the excavated public buildings are found by the river to the North of that mound which would be equivalent to the citadel at Mohenjo-daro. The inside of this citadel mound is so badly damaged that apart from the fortifications it has been impossible to interpret the remains within.

There is another Harappan city of comparable size and situated almost equidistant from Mohenjo-daro and Harappa. This is Ganweriwala, in Cholistan. The settlement has not yet been excavated and, consequently, our information on it comes only from surface surveys. In addition, there are two other, urban settlements, Kalibangan in the Indo-Gangetic Divide, and Lothal in Gujarat, both in the present-day India, just across the Indo-Pakistan common borders. Compared to Mohenjo-daro, Harappa, and Ganweriwala, both of these settlements are of relatively small size but quite adequately excavated. All these five Indus cities shared several common features of urban layout, which are more vividly observable at Mohenjo-daro.

In addition to these five cities, there were a large number of Harappan settlements which can be characterized as towns. They were generally small, around 4 to 16 hectares. Many of them shared several features of the larger cities, such as the division into separate walled mounds or areas, the efficient drainage system, and the wellbuilt houses. Often these towns had substantial industrial areas, producing a range of artifacts, and they were well supplied with the high-caliber standardized craft products characteristic of the Harappan Civilization. These included fine pottery, tools of high-quality flint, a range of generally simple metal artifacts, many charming terra-cotta figurines of humans and animals, inscribed seals, and a great variety of personal ornaments made of shell, gemstones, metals, and several manufactured materials including faience. In addition, there must have been many fine products in materials that have perished but of which few traces survive, such as wood and textiles.

While some towns had many functions residential, industrial, religious, and administrative - and served their local area, others seem to have had a more focused role, related to regional trade. These were entry or transit points for goods and materials, located in key places with respect to resources and communications. Those at the interface with the outside world, in the Makran, in Gujarat, and perhaps on the margins of Baluchistan, had strong walls. Some also processed local raw materials on an industrial scale. The main role of these settlements would have been to acquire and, if relevant, process raw materials and finished goods from neighboring areas and to organize their

distribution to other parts of the Indus realms or their dispatch as trade goods. Examples of this type of towns include Shortugai, Sutkagen-dor, Sokta Koh, Pathani Damb, Chanhu-daro, Kalibangan, Bananwali, Balakot, Allahdino, Surkotada, and industrial sites like Nausharo.
Harappan urban settlements, of whatever size, from 150-hectare Mohenjo-daro to l.4-hectare Surkotada, generally shared a number of features: the use of bricks of uniform proportions (1:2:4); efficient provision of water and sanitation; workshops and other industrial facilities; well-appointed housing; cardinally oriented streets; and the use of baked brick, particularly for bathrooms, drains, and wells. Generally, walls surrounded the settlement or separate parts of it, some freestanding while others providing revetment for foundation platforms.
These features, however, were expressed in very different ways, both from one settlement to another and from region to region. Stone, for example, was rarely used in architecture except in Gujarat and coastal area of Baluchistan where the stone was common; Mohenjo-daro and Chanhudaro were unusual in their very extensive use of baked bricks for building houses. Water facilities also varied markedly; for example, Mohenjo-daro had seven hundred wells, whereas Harappa, near a river, had only a few, and Dholavira (in Gujarat) had huge water reservoirs. Settlements varied in the degree to which they were planned: In some (for example, Mohenjo-daro), the north-south orientation of the main streets resulted in a grid plan; in others (for example, Banawali), there is much less apparent order; and a few did not even adhere to cardinal orientation.
Although the evidence is limited, it is likely that the Indus cities were the administrative, religious, economic, and social centers of their respective domains and that a significant proportion of their residents were engaged in nonsubsistence activities. The central location of Mohenjo-daro, its size, and its unique features, particularly the Great Bath, suggest that this city may have been the capital of the Harappan polity, but this is by no means proven and Harappa and Ganweriwala may have enjoyed equal importance. According to some other opinions, however, the Harappan cities were not administrative centers, rather, every city arose for different reasons and performed different functions. For example, Mohenjo-daro could have been mainly a ceremonial center, Harappa could be a trade center, Lothal an industrial site, and so forth. While a general similarity of the Harappan settlements in multiple-mound settlement, elaborate town planning, and architectural features, is generally accepted as an archaeological fact, Fentress (9) has shown that previous excavators have exaggerated the similarities in general layout between Mohenjo-daro and Harappa and, by implication, between other Harappan cities and towns. Most archaeologists have commented on the elaborate colonnade, pillared corridor, and sunken pool at Mohenjo-daro, which has no counterpart in other cities. The "workmen's platforms" at Harappa, whatever their function, are unique. Although Wheeler had thought that both Harappa and Mohenjo-daro had granaries, this interpretation is now in doubt given the absence of grain or food-processing equipment at either location. These differences suggest the presence of localized authorities capable of investing substantial human labor in building projects unique to their own cities. Though functional designations for these buildings as workmen platforms, granaries, great baths, castle, and bailey may be misleading, they do evoke the concept of civic authority. This lack of uniformity in the construction of public structures differs markedly, for example, from the restricted layout of public buildings found in other civilizations, such as in Mesopotamian temples, where a standard plan was employed in its various cities.
Suburbs: The evidence for suburban settlement is growing, and it seems likely that this was a feature of many Harappan towns and cities. Extramural architecture has been uncovered at Mohenjo-daro, Harappa, Balakot, and Kalibangan; mounds and scatters of Harappan material, including bricks, suggest that suburbs may also have existed around other settlements, including Lothal. It is likely that suburbs often developed gradually as the area inside the walls became too small to accommodate all who wished to live in the town or city. In some cases, areas of suburban development were later

brought into the walled settlement by constructing additional walls: for example, mound ET at Harappa, and the successive additions of the Middle Town and the Lower Town to the walled area at Dholavira. In other cases, including Sutkagen-dor, among others, the suburban area was not walled; it probably housed those connected to but excluded from residence in the walled area. The suburbs are also likely to have been the locus for heavy industry and craft activities with noxious by-products, such as brick making. They may also have included gardens, fields, orchards, or grazing, as has been the case in the suburbs of many cultures. In this respect, they can be viewed as a bridge between the rural and urban economy. *Rural Support Structure:* Closely connected to the organization of the Harappan society into cities and towns is the question as to how these urban centers related to the rural economy that apparently sustained this civilization. Furthermore, we wonder if these agricultural villages were intimately integrated with the regional or the central economy of the land or if they existed merely as isolated groups of agricultural settlements unconnected with the equally isolated urban islands existing in their midst. Unfortunately, however, most of the models of socio-economic organization of the Harappan people focus on the cities, assuming that the villages would have been altered by the centralizing effects of urbanization. They assume that the daily activities of the smaller rural settlements would have been integrated into the overall structure of the dominant urban centers through control over the production and exchange of agricultural goods. This is, however, an assumed truth, not necessarily based on archaeological facts. Evidence is increasingly accumulating that the Indus villages were not merely centers of food production for the cities but were largely socio-economic units onto themselves. The idea of the Harappan ‘autonomous’, ‘selfsufficient’ villages is lately gaining strength and it has an important bearing on the socio-political structure that emerged after the disintegration of the Harappan Civilization. Unfortunately, little been paid to the village communities which may be expected to have formed the basis of the Harappan economic system, as indeed they always have in Pakistan and elsewhere in the region. Similarly, far too little is as yet known about the nomadic or semi-nomadic communities who must have then as now lived on the periphery of the settle areas, breeding cattle and other livestock, and no doubt providing transport for trade attention has hitherto and communication. At the present moment we have no idea how much of the population was centered upon the cities and how much was dispersed through the villages. The fact that only the cities have been excavated and documented, it is clear that the study of Indus cities and towns of this time period have been emphasized at the expense of the villages. It is only recently that attention has started to be paid to this important aspect of the Harappan Civilization and a coherent pattern of the village life and its interaction with the city centers would most likely develop with time. In the meantime, we have to be content with the descriptive nature of these villages as it is becoming known to us.

We do not as yet fully understand the settlement pattern of agricultural villages around the cities or the relation which an Indus city maintained with these village settlements. In fact, no deterministic criterion, excepting perhaps size, exists to classify Indus sites into ‘cities’ and ‘villages’. It is widely known that the various items of cultural equipment of the civilization like pottery, chert weights and blades, copper-bronze objects, beads, terracotta cakes, toy cart-frames, bangles and animal figurines, faience objects, and above all the seals, are marked by their presence in the smallest village as it is in the largest city. This makes it difficult to differentiate objects of the socalled ‘city’ site from those of the village site. The difference is more in the scale or quantity than in quality.

From what we know about Harappan village sites, there is characteristically an ‘acropolis’ as well as a habitation area, if only at very much smaller scale than in the urban sites. The ‘acropolis’ in the village would seem to be simply a public building set above the habitation areas. This structure, too small to be habited, must have been used to perpetuate something shared across the Harappan world. It is difficult to conceive of this as having been anything else but a religious or an ‘ideological’ symbol.

In all appearances, even the smaller Harappan settlements appear to have an urban character. It is this general picture that has compelled Daniel Miller to say that there were no villages in the Indus realm. Complicating the situation further, is the general impression that, barring Cholistan settlements, there is a dearth of village-level settlements around cities, which means that somehow larger settlements do not have a support structure of smaller villages around them as they are around the cities of other early civilizations: Harappa and Mohenjo-daro testify to this feature. Even the unexcavated site of Ganeriwala in Cholistan, which is surrounded by a thicket of rural settlements, does seem to defy this description. The marked absence of village remains in the core area of the Harappan realm points to two alternative conclusions. First, these remains must have been obliterated by the vagaries of the elements, washed away by floods, or simply buried under the alluvium. Second is the possibility that permanent villages may not exist to start with, the cities and villages were self-sufficient and not depending on each other. In effect, it proposes that the city folks did not depend on villages for food, they produced their own food in the surrounding land. They kept their own domesticated animals and this essentially constituted their wealth. Such an explanation seems logical for smaller cities but defies logic in the case of large cities like Mohenjo-daro, Harappa and Ganweriwala. This opens up a new chapter in the research of socioeconomic structure the Harappan Civilization. A third explanation is also sometimes offered. In protohistoric times there would have been few people in proportion to the land available, and that protohistoric subsistence never relied solely on agriculture: it also involved the gathering of wild plants as food, fishing, pastoral production, and hunting. Thus, we can conclude that people were not irrevocably bound to particular villages. Repeated failures of rain could have impelled sedentary communities to splinter and move afar in search of hospitable environs and thereby 'disappear' from the archaeological record.

The Indus Civilization was a complex society; at some point in time it lost this complexity. It did not get ‘transformed’ into another civilization, it reverted to its constituent components of much less complexity, of course, with concomitant and drastic changes in social, political, and economic spheres. There is, thus, no ambiguity.

(Shereen Ratnagar)

We must not also forget that a large proportion of the population was still nomadic and they made their living through full time pastoralism instead of agriculture or crafts. The presence of this socio-economic sector within the Indus system has added unforeseen and archaeologically invisible additions to the variables characterizing the social organization of the Indus Civilization. This sector of society, along with that of the nomadic pastoralists, obviously needed different political and social organization (11,12). Thus, we are faced with the task of examining the social and political structure of the Harappan people from a wider perspective although our focus still remains on the social and political organization of the urban centers of the civilization. One reason for this lop-sided focus is the fact that we do not have much information about the Harappan villages, much less on pastoral communities and hunter-gatherers. Having said that, pastoral groups played an overwhelming role in the reconstruction of the social fabric of the post-Harappan society and this vista must always be in our view.

Artifacts and Related Technologies: A special feature of Harappan citizens was their keen interest in pyrotechnology, the knowledge of fire. Making of pottery and glazing or coloring it in diverse effects is one aspect. Production of lime plaster, and making and manipulating of faience into desirable objects are some of the other objectives which depend on pyrotechnology. Extracting

copper from the copper ore, alloying it with tin, lead or arsenic to make bronze, and forming it into diverse objects of utilization and art are the very basis of Bronze Age of which Harappan Civilization was a part.

An imaginative terracotta art depicting all kinds of animals as well as people offers much scope for sensitive interpretation. Seals give evidence of another level of artistic creativity. These are shaped for easy handling and have rectangular faces carved with pictorial symbols and writing. Other characteristic elements are beautifully cut and polished cubical stone weights that were only one part of a uniform weighing system; marine shell and ivory with multiple uses; domestic artifacts; baked clay missiles balls and flat 'cakes' for paving floors and for heat retention at fireplaces; and ornaments made of faience, bronze, silver, gold and semi-precious stones of attractive colors. Culturally significant is a logographic system of writing.

The uniformity of the Harappan material culture has been frequently commented on as one of the unique features of the Harappan Civilization. It has been noted that while the earlier phases of the Bronze Age cultural complex show varying patterns in different geographical regions of the Greater Indus Valley, the Harappan Civilization imposes a certain uniformity in its basic cultural manifestation and hence there is little difficulty in identifying the urban pattern associated with it. Notwithstanding this cultural uniformity, we find manifestations of regional variation within the Harappan region itself and at least three such regional variations (Domain, according to Possehl) can very distinctly be identified.

Trade and Communication: Some communications within the Indus region were over land, using bullock carts for short journeys and the animals of pastoral nomads as beasts of burden over longer distances. Bulky goods, however, were more easily transported by water, along the rivers and around the coasts. Many of the raw materials needed by the Indus people could be obtained in the regions controlled by the Indus civilization: flint from the Rohri Hills, carnelian and agate from southern Gujarat, gold dust from the upper reaches of the rivers, timber from the Punjab, and clays from most areas, while textiles could be made from the cotton grown by the farmers, possibly wool from the pastoralists' sheep, and probably the hair from their goats, as well as leather. Other materials were obtained from the inhabitants of neighboring regions: copper and possibly tin ores from several locations in Baluchistan and Afghanistan, ivory, honey, and other forest products from the hunter-gatherers who ranged through the arid areas to the south of the Indus region.

Foreign Trade: In the early third millennium, the inhabitants of the Indus region had participated in the trading networks that operated across the Iranian plateau. With the emergence of the Indus civilization, however, came a major change. Seagoing boats were now constructed and Indus merchants sailed through the Gulf to trade directly with the inhabitants of Oman and eventually with Bahrain and the cities of southern Mesopotamia. While there is little evidence of the ships themselves and nothing is known of their antecedents, the fact that Indus merchants are known to have traveled to Mesopotamia, while Mesopotamian ships did not venture outside the confines of the Gult suggests that the development of seaworthy vessels was an Indus innovation.

The Indus people also established a trading outpost at Shortugai in Afghanistan, allowing them to monopolize the supply of lapis lazuli to Mesopotamia. Many settlements in this region and in northern Iran have yielded Indus material. But while the Mesopotamian texts attest to the importation of a range of Indus raw materials, and Indus beads are well known from Mesopotamian excavations,

it is difficult to establish just what the Indus people obtained in exchange.

Investigations outside the Greater Indus region have provided new insights into the overseas trade of the Indus people. A full-fledged Indus settlement was excavated at Shortugai in Afghanistan, 1,000 kilometers from the Indus, a trading outpost controlling the flow of material from the lapis mines of Badakhshan. The Indus people seem to have founded Shortugai to enable them to monopolize the supply to the outside world of lapis, a beautiful blue stone that was highly prized. Metal ores may also have been obtained from the region. Excavations have been conducted at Shahr-i Sokhta, TepeYahya, and a number of other cities that flourished in the fourth and early third millennia across the Iranian plateau, revealing trading networks that brought lapis to the Near East before the Indus Civilization established its monopoly; other goods also flowed along these routes, such as chlorite and metal ores. Much attention during the 1970s to 1990s focussed on the civilization of the Helmand Valley and on the cultures of Central Asia. Knowledge of the urban cultures of the Iranian plateau is constantly expanding: Most recently a state has been discovered in the Kerman region with a major settlement at Jiroft, possibly the legendary state of Aratta known to the Sumerians.

Socio-Political Structure: Several nonmaterial aspects of the Indus Valley Civilization - its *raison d'etre*, evolution, character, and particularly its decline and ultimate end - are still subject to investigation and these are the least examined aspects in the extremely rich archaeological literature. The reason is obvious: these are the areas where the lack of written sources and comparative studies, which alone could fill up the gaps, are most painfully felt. The situation is not entirely hopeless, though; there are many lines of evidence that have been followed by scholars and some of them have resulted in a convincing reconstruction of how the Harappan society developed and how it functioned.

The questions of social stratification, class structure, and political control are some of the burning issues in the current historic research. All these issues bear upon the nature of sociopolitical complexity of the Harappan Civilization which after the demise of the Harappan collapse was replaced by a much simpler post-Harappan society. Thus, the discussion of the social, political and economic aspects of the Harappan society constitutes an important and essential topic of debate in context with the decay and demise of the Indus Age.

The questions are asked: What was the extent and nature of social differentiation and stratification in the Harappan society, what was the process of the emergence of this stratification, and how did it resemble or differ with the other contemporary civilizations. What was the socioeconomic base of the Harappan cities, how did different strata of the society interacted with each other and how did cities relate to the surrounding rural hinterland? Apart from these diverse aspects of the Harappan society, there is the overarching question: how was this society organized politically. The production of surplus, its acquisition by the ruling class, and its distribution or collective use, must be a quite complicated arrangement and that itself calls for an incisive enquiry. The question of slavery or the state’s right to demand labor from its citizens is equally important. Furthermore, the existence of an incipient caste system, which has been a hallmark of the South Asian society, including Pakistan, for so long, is an academic and historic issue that has recently come to the forth. Towering over all this is the fundamental issue: how complex was the Harappan society as to be designated as an urban civilization? Was it, as Fairservis has famously declared, a ‘more village-like than city-like’ or, as other scholars insist, more city-like than villagelike’ society?

A definite answer to these questions is not possible but a general picture does emerge as we ponder

over the archaeological remains and compare them with those of the other early civilizations which have left behind some written material and for which considerable more is known. Mesopotamia is one such example. The study of the socio-political organization of the Harappan society is therefore intimately connected with similar studies on other ancient cultures. These studies are diverse, mostly describing the individual civilizations in isolation, but there have been a few attempts that bring this vast area of scholarship at one place and then look at it to see if they have some common features of social organization or to observe if their was a common path of their political development. If not, then, how did they differ and, if possible, why. Most of these attempts focus on Mesopotamia and Egypt and lately on the emerging societies of Central Asia and Mayan civilian of Mesoamerica. Unfortunately, the Harappan Civilization has been the least used and least influential example in such studies. In spite of this obvious neglect of the Indus Civilization these comparative studies are nevertheless of much usefulness and we have given it sufficient space in Volume IV of this series.

The Harappan Civilization is perhaps unusual in the degree to which we are entirely reliant on archaeological materials for its interpretation. The Harappan script has not yet been deciphered, and there is no writing of a later period, for example by successors, conquerers, or colonists, which clearly refers back to it and provides a basis for its description. Although there have been a number of important recent excavations and re-analyses of the old data, the total archaeological evidence is still sparse compared to, for example, the Near East. Add to it the quite liberal interpretative license that some of the archaeologists working in India have appropriated to themselves, of course, along with appropriate 'archaeological data' and 'recent discoveries', to propagate some preconceived ideas about the origins of the "Indian Civilization". This scarcity of evidence and this muddying of archaeological water poses considerable problems in the study of the social order of the Harappan Civilization.

Even if sufficient archaeological material were available and even if the dark shadow of 'Vedic scholarship" is lifted, there are several other impediments in the way of impartial and objective analysis of the subject matter. As Miller (13) and Guha (14) point out, the same evidence could lead us to different, even contradictory, conclusions. An ideological representation suggested from burials may be that of an ideal, for example, of egalitarianism, denied by the degree of hierarchy found in control over material resources or esoteric knowledge. A particular array of forms may represent the interests of a particular group and mask those of subordinate elements in society who have no access or control over the forms taken by cultural property.

The available analyses of the social structure of the Harappan society have tended to divide into separate topics such as homogeneity of material culture, class differentiation, political organization, trade, art, and religion, and this has been done here too. An ideal method would be, however, to examine each topic in context with the other. Such a "contextural" approach is not yet been taken by anyone for the obvious difficulties of its vastly expanded scope. The study of social organization of an early complex society, such as the Harappan Civilization, cannot be particularly divorced from religion and we must keep in mind that this aspect of ancient history cannot be studied independently; reference to the general makeup of the society is necessary and the social norms or traditions must be searched in the prevailing religions. All these topics are important in the study of the Harappan society as these are the very subjects that often come under discussion in context with the post-Harappan society.

Social Differentiation and Stratification: Archaeologists recognize a complex society, such as that

of the Bronze Age Mesopotamia, ancient Egypt, and the Harappan Civilization, and differentiate it from a “simple” society, such as the preurban cultures of the Indus Valley, through a few essential criteria. For example, in a complex society *social stratification* divides people and families into distinct ranked groups (strata) on the basis of their wealth and status. In general the social hierarchy in the ancient civilizations of the Old World was fairly similar - the people were generally divided into 3 or 4 social classes, the nobles and priests being of the highest rank while the slaves, menial labor, and outcasts being of the lowest. The nobles and priests enjoyed higher status since they were the rulers of the country and leaders of the society. For instance in Mesoamerica, it is known that the high priests acted as advisors to the lords and nobles in the ruling of the country, in Mesopotamia they were the rulers themselves. In post-Harappan Pakistan and India, the priests were even more important than the kings as they were the only ones who could memorize and recite the magic spells of the Vedas. The slaves and outcasts were placed at the bottom of the social ladder, since they were either prisoners of war, convicts, no-pay laborers, people who took on jobs that no one else wanted to do, or simply servants to the rich, the nobles, and the priests. Between the two classes lied the merchants, artisans, and agriculturists. In antiquity, the composition of this class structure varied from civilization to civilization but as a principle its existence has been an essential element for the development and sustenance of every civilization. The question of social division and stratification is therefore one of the most crucial issue in the study of socio-economic organization of society.

In the Harappan case, the evidence for social differentiation and hierarchical structure is not as strong as it is in many early civilizations; and whatever is available, is rather difficult to interpret. The Indus Civilization thus came to be understood, predominantly in Western academic circles, as an 'alternative paradigm' in the development and structural organization of early complex societies, apparently unlike other contemporary societies. As Shaffer summarized: “it could be that the Indus Valley, a technologically advanced, urban, literate culture was achieved without the usually associated organization based on hereditary elites, centralized political government (states, empires) and warfare” (22). Shaffer's claim that materials known to be valuable elsewhere (such as copper) were available to a large proportion of the population. This interpretation of the Indus Civilization places it in contrast to the organization of societies in contemporary Mesopotamia and Egypt, which have often been used as aids to interpreting the difficult archaeology of the Indus Civilization, with the effect of creating a dichotomous division between characteristically 'hierarchical' societies in West Asia, and the supposedly 'unstratified' Indus Civilization.

Rissman (28), contrasting the contents of Indus graves with those of hoards, attempts to explain the range of goods in Indus graves in terms of an ideological requirement to mask social stratification rather than actual lack of social stratification. Indus burials are often observed to contain a relatively undifferentiated range of grave goods (28), and the skeletal remains display similar levels of stress and trauma, the implication being that all those interred may have enjoyed similar lifestyles. Rissman's thinking fits in well with a wider belief that there was adherence to some form of ideology which stressed privacy, and shunned conspicuous displays of wealth. This is particularly in evidence in Possehl's work, especially his comments pertaining to the layout of domestic architecture of Mohenjo-daro (10). An ideology promoting equality, or emphasizing unstratified aspects of society, has also been proposed by Vidale (29), Miller (13), and Kenoyer (25) to explain this aspects of Indus material culture. They draw attention to the wide range of materials from which most types of object could be manufactured in the Indus, often retaining the same shape or design, and suggest that this was a means of reinforcing the 'vertical integration of different classes' within the wider social system (25). Based on the range of house sizes, Sarcina concluded that at Mohenjo-daro there were

'few differences in social standing' (31).

Few researchers are now explicitly stating a belief in the total absence of social stratification within Indus society, but it is certainly an impression one gains from the literature, as demonstrated by Maisels' unquestioning acceptance of it (30). This interpretation has had a significant impact on later thinking, to the point where its fundamental propositions have become insidious and implicit notions influencing the understanding of even the most basic aspects of Indus society with the result that the absence of social stratification is implicit in many other discussions of Indus society.

However, evidence for this interpretation is arguable. A few years ago, Edward Cork examined this issue in detail (23) and concluded that the Harappan society was indeed highly stratified and it can favorably be compared and studied with other early civilizations such as Mesopotamia. The evidence from Harappan graves has also been questioned. It is generally accepted that the restricted number of Indus cemeteries and low number of located burials indicates that burial was not the predominant burial rite, and therefore those buried may well not provide a representative cross-section of the population.

It appears that the popular belief regarding the unstratified nature of Indus society does not stem from clear evidence, but rather from obser- vations regarding the absence of evidence for powerful elite groups analogous to those of con- temporary Egypt or Mesopotamia. This is frequently commented upon. Obviously, the absence of such groups cannot be equated with a com- plete absence of social stratification or of elite groups, and this is routinely acknowledged by authors, through their references to unknown elite groups and rulers. Kenoyer, for example, refers to the absence of evidence for centralized elite insti- tutions and wealthy elites, but proposes a network of multiple competing groups (25). It is unfortunate that the little targeted research which has at- tempted to elucidate aspects of Indus socio- political organization and centralization has drawn largely inconclusive results. This, coupled with a lack of critical thought and an unwillingness to engage deeply with the difficult issue of Indus elites, has no doubt led to the generation of a confusing picture to non-specialists and special- ists alike; culminating in works like that of Maisels (30), that now have a wide dissemination among students and casual readers.

Most of the reasoning in the 'alternative paradigm' as outlined above is negative - the absence of palaces, the absence of wealthy graves, the absence of settlement patterns, the absence of evidence for warfare and so on. Undoubtedly, these observations are of great interest and significance. However, it is an odd situation indeed that a society spread over one million square kilometers, with over 1000 recorded sites and the most extensively excavated urban remains in the Bronze Age world should be interpreted primarily on the basis of the evidence it does *not* have. Significantly, the recourse to negative evidence also betrays the extent to which implicit compari- sons with other early complex societies pervade interpretations of the Indus. Observations such as the absence of temples are meaningless outside of a comparative framework, which has observed the presence of temples in other contemporary societies and judges their absence in the Indus to be meaningful. In fact, most of the 'facts' structur- ing the 'alternative hypothesis' are only meaning- ful within a comparative framework: weapons are scarce in comparison to numbers found in Meso- potamia, settlement networks are 'unpatterned' in relation to their 'patterned' Mesopotamian counterparts and the significance given to the ob- served homogeneity of house sizes implies those elsewhere were not. This point is at the crux of cork’s thesis (23).

The picture of the Harappan society built on some kind of egalitarian ethos and being unique among the early civilizations of the Bronze Age is quite popular at the present time. However, there are equally numerous adherents to a Harappan society that was highly differentiated and probably hierarchical. There are several reasons for this confidence, the most important being the existence of prestige goods and the division of major Harappan sites into two or more walled sectors, one presumably for the elite and other for the common masses. An analysis of artifacts also coveys a similar message. For example, beads were made from hard, difficult-to-obtain precious stones as well as from terracotta - the former for the ruling elite, the latter for the common masses. There is also some differentiation in pottery: finely made and decorated as well as coarsely made and undecorated; again indicating socially differ- entiated users.

The presence of substantial archi- tectural features, such as the Great Bath and Warehouse at Mohenjo-daro, suggests patterns of use not open to the bulk of the city's population.The limited number of stamp seals seems to indicate that not everyone possessed these splendidly crafted, probably "expensive," items of personal identification or grace. Social differentiation is also evidenced by contrasts of big-house/little-house, and baked brick-house/mud brick-house, that are clearly present in the Urban Phase. Finally, the presence of truly sumptuous items of personal adornment, such as the necklaces found at Mohenjo-daro and Allahdino, and a growth in the use of precious metals and beads are indicative of differential access to wealth, productivity, and abundance. This picture is strengthened by the comparative evidence from Mesopotamia, a contemporary civilization of the Bronze Age with which the Harappans had trade and cultural contacts and from where very clear evidence for a socially differentiated society is forthcoming.

All this boils down to a Harappan society that was indeed a differentiated and to a large extent stratified polity where an elite class managed the Indus cities, and craftspeople, merchants, and other individuals produced and consumed products. Identifying these differences should provide support for arguments advanced by Cork, McIntosh, Ratnagar, and others. Quite a few archaeological studies of the Harappan Civilization have been undertaken lately, the object of which is to discern the differences and similarities between people, such as those based on gender, social status, ethnicity, occupation, or cultural or religious affiliation. These include housing and the organization of settlements; personal appearance and access to valued objects and materials; funerary practices; and health and diet. Other clues are sought in the organization of trade and craft production and the mobilization of labor for largescale enterprises. One example of such studies is that of Ratnagar (32). Another study is that of Kenoyer (33,34) who mainly concentrates on the evidence from Harappa. Edward Cork’s (23) and McIntosh (35) studies have already been mentioned.

Material Homogeneity and Standardization: The Harappan Civilization covered an area of about one million square kilometers at its peak but despite its geographic vastness, it had a high degree of uniformity in material culture at its several urban centers.

An overwhelming impression about the Harappan Civilization is that of a sophisticated and highly complex society whose hallmark is cultural as well as technological uniformity, both throughout the several centuries during which the Harappan Civilization flourished, and over the vast area it occupied. This uniformity is manifest in the Harappan material culture despite the fact that the Civilization encompasses extremely diverse ecological settings, which vary from the Cholistan Desert in the East, to the alluvial plains of the Indus, and the mountainous coast of Makran. This impression of homogeneity results from two complementary factors: the similarity between artifacts

at different sites and their predominantly plain form, which also gives an impression of primarily utilitarian concerns. These include the system of weights, the seals or sealings, various ornaments, the triangular terracotta 'cakes', and the classic Harappan black-on-red ware, which includes both geometric and naturalistic designs.

Further evidence for cultural uniformity is provided by a common script and the presence of proscribed urban plans. Uniformity is also noted within the size and shape of bronze tools, stone beads, ceramic forms, and even painted decorations (36). Other frequently illustrated examples of homogeneity and artifactual standardization are pottery and seals. The classic Harappan black-onred ware, which includes both geometric and naturalistic designs, is easily recognizable as a conventional style, and the particular stylistic units used. In seals also the shape appears to be heavily standardized.

Therewasastandardizedsystemof weights, all sharing a single binary system of 1, 2, 4, 8, 16, 32, up to 12,800, found at about 22 Harappan sites, large and small. This spread indicates a network of supervised and controlled exchanges over the Harappan area. Prolific intercommunity exchanges, even specialist traders, would not necessarily require uniform weighing systems: for example, in Early Dynastic Sumer, weight systems differed from one city-state to another. But after political unification and administrative centralization under the Third Dynasty of Ur, a uniform system of weights was imposed throughout the realm. Although the system of measurement is less certain, the fact that the dimension of both baked and unbaked bricks generally follow the ratio of 1:2:4 suggests a shared or common standard.

Such a uniformity in artifacts was even extended to the stone tools: throughout the Indus realm the chipped stone material dominated by parallel-sided blades. The lithic industry has been studied both at factory sites, where actual working surfaces can be observed *in situ,* and from excavations at several Harappan sites. As detailed analysis of the assemblages at Allahdino and Balakot reveals a marked decrease in reworking in Harappan level. In fact the secondary working was a rarity in most of the artifact forms found in the Harappan Civilization (13).

Finally, there is an apparent common urban plan, as illustrated by those of Mohenjo-daro in Sindh and Harappa in the Punjab in particular but also in so many other sites in general.They are widely held to share a plan of a raised rectangular mud-brick podium in the West, the so-called 'citadel', and a lower but larger town in the East. This multiple settlement pattern has also been identified at a number of other settlements throughout the region. What is surprising, is that even the tiniest site may be trying to emulate the same pattern. Clearly, as one goes down the size of Harappan settlement the separate citadel becomes a practical impossibility, and we find Surkotada divided into two. There are some other small sites which consist of only one mound but still separating out into different classes of buildings (13). This degree of regularity is quite different from our image of the 'peasant village' as distinct from the city; we get an impression that all Harappan settlements, big and small, followed the same general rule. In fact the proportion given over to separate and 'speccial' areas may be quite as great in the smallest sites as in the largest. As calculated by Miller (13), the separate citadels of the largest sizes are approximately a seventh of the entire site, but at the smaller sites of Lothal and Kalibangan the citadel takes up a third of the site, and at the minute site of Surkotada the site is divided in half. It is still quite uncertain as to what these divisions may represent, but overall it appears to confirm the idea that the Harappan civilization has no "villages" in morphological terms (13).

The uniformity of the artifacts and the technology to make them remained intact over several

centuries, experiencing only slow and imperceptible change. In Wheeler's words: "..... The Indus citizens seem to have drawn the penalty of early success: a complacency, even selfsatisfaction, which impeded further effort. Our knowledge does not suggest any trend towards new social or aesthetic horizons" (37). Commenting on the Harappan artifacts, the Allchins echo the conclusion most researchers when they state that "it is possible to typify each craft with a single set of examples drawn from one site alone" or, for example, that "a standard range of copper and bronze is recorded in site after site" (36).

As Raymod Allchin has remarked, this striking cultural homogeneity and standardization was such that one might have roamed from Kutch to northern Afghanistan via the Indus plains and found the familiar settlements of the Harappans all thriving contemporaneously wherein the pottery, bangles, seals, weights and measures, town planning, drains, graters, bath, etc., looked so familiar that it gave the allusion of a static and non-changing society. The artifacts were duplicated so precisely wherever Harappan settlement occurred that it is often times difficult to speculate as to the spatial origin of any particular artifact or place or time period when it must have been fabricated. This state of affairs - the expansive uniformity, the 'competent dullness', the extant 'sameness' over time - coupled with the apparent segregation of production areas for different products, bears upon the question of the social and political organization of the Harappan society and has fueled the current debate on the political nature of the Indus cities.

Coupled with the apparent uniformity in production was the widely dispersed uniformity of consumption. As stated earlier, even at small sites, such as Allahdino, which are so small that they could not possibly have supported such a range of manufactured goods, there is no noticeable absence of any of the common artifact types, so that there must have been an effective internal trading network which supplied such sites. This latter has been emphasized by Fentress as having been a major means of ironing out local and differential access to resources (9,38).

It is possible, as some archaeologists have noted, that the uniformity of Harappan objects has been generally overemphasized and the diversity which exists in other spheres generally ignored. For example, Fentress (9,39) has pointed to a manifest diversity in material of house construction as well as the artifacts found therein. On that basis, she has vigorously challenged the general impression of homogeneity in the Indus culture and some of this criticism indeed seems to be valid.

Miller (13), nevertheless, finds Fentress' conclusions wanting. First, the assertion of homogeneity is always dependent upon the level of analysis. Artifacts which are the same in terms of centimeters may be highly variable at the level of millimeters. As modern techniques have become more sophisticated they are bound to reveal a degree of diversity. Second, Fentress' aim was to critique the conventional interpretation of homogeneity as "normative" and to exemplify the concern for variability advocated by the "new archaeology". There is therefore a clear bias toward the assertion of variation in contrast to the earlier attempts to deny it. The problem is how to interpret the degree of variability she reveals. Commenting on this study, Miller (13) observes: "I would assert that in all five artifact classes examined, it is the overall similarity between the two sites [i.e., Mohenjo-daro and Harappa) which is striking".

We must also mention that apart from the question of apparent homogeneity in artifactual remains, settlement pattern, and housing construction, one should not ignore a possible heterogeneity in other aspects of Harappan life, including such fundamental matters as religion and subsistence. It owes

much to the diversity of cultural backgrounds from which its people sprang. In the centuries before the emergence of the civilization, these included indigenous huntergatherers and fishers, farmers and pastoralists of local stock, and others whose ancestors came from Baluchistan and the Indo-Iranian borderlands, as well as those who still had their homes in the latter region. Differences in artifacts and the abstract, small as they may be, could still be significant enough as to affect our assessment of the social and political organization of the Harappan society.

Almost all the relevant examples of diversity available to us are from the peripheries rather than from the core of the civilization. For instance, the cases of cultural differentiation in Kutch and Saurashtra, Kuli region, and Zhob and Quetta valleys can be quoted. Judging from their material culture, the people of Kutch and Saurashtra do seem to be different from those of the core areas of the Indus Civilization: this comes through as not just different kinds of pots and other artifacts, but in terms of subsistence, adaptation, and ways of life. Similarly, the Kulli people of South Baluchistan and those of Zhob and Quetta/Pishin Valley of northern Baluchistan stand out in contrast to the Harappans of the riverine plains. They seem not only to be somewhat different from the core area but also from each other. We also see some variations in material culture in the IndoGangetic Divide but these cultural remains, along with those of Kutch and Saurashtra, are of Late Harappan or even post-Harappan period rather than of the Mature Harappan period. Thus, looked from this venue, some degree of regional variation in ceramics does exist but these variations stem from being outside the timeframe of the Harappan Civilization and from being at the periphery of the Indus region.

Thus, notwithstanding the limited regional variation that can be discerned in some of the artifacts, the Harappan Civilization was quite uniform over a large span of time and space, its technological base was rather slow to change, slow to the extent that ‘culturtal stagnation’ readily comes to one’s mind, its ceramics indeed reflected a picture of ’competent dullness’, its architecture only varying in the use of raw material dictated by its availability alone, and its social structure probably fossilized into a state of ‘eternal bliss’. This state of affairs - the expansive uniformity, the ‘competent dullness’, the extent ‘sameness’ over time - coupled with the apparent segregation of production areas for different products, bears upon the question of the social and political organization of the Harappan society and has fueled the debate on the political nature of the Indus cities.

Political Organization: The uniformity of cultural markers, such as the crafts of various kinds, has a strong bearing on organization of the industry, the procurement of raw material, and above all the mechanism for achieving such a uniformity over such a vast area. In this connection, the main analytical framework for Harappan material culture was established by Piggott, who chose to emphasize the uniformity in style and technology definable among such objects as ceramics, metal tools, seals and weights. According to Piggott such uniformity correlates with ". . . a monotonous regularity of a highly organized community under some strong system of centralized government, controlling production and distribution and no doubt levying a system of tolls and customs throughout the territory under its rule" (4).

This, however, does not seem to be the case (13). Extensive work at Mohenjo-daro, which includes a large scale surface survey, suggests that, while most of the familiar commodities were produced on the site, the nature of this production was generally dispersed (40,41). Depending upon the product, there is evidence for a variety of workshops and for considerable manufacturing activity taking place within the ordinary houses of the residential sectors. There is no evidence for a factory-style system of centralized production (13). This type of manufacture at Mohenjo-daro may be matched by the

evidence from other areas. Even comparatively small sites such as Lothal and Chanhu-daro appear to provide evidence for the local manufacture of a large proportion of the typical artifacts. Such a decentralized form of production suggests that the homogeneity is not a product of the direct centralized control.

Piggott felt that such uniformity reflected a basically conservative attitude toward culture change, one reflected in the Harappan culture to such a degree that he felt it had entered a stage of cultural stagnation.This interpretation of Harappan material culture is somewhat reflected in all subsequent summaries on the civilization and this was in the past at the root of influential and longlasting interpretations of Harappan society.

The issue of the political structure of the Harappan society has been discussed extensively in archaeological literature. Here we briefly touch upon a few points to round off the discussion. According to the currently popular theory of state formation, most civilizations go through various stages of growth from the family to the local groups to collective fiefdoms, chiefdoms, citystates and on to territorial states, even empires. It is likely that the Harappan Civilization too went through these stages, although it is not clear how and when.The exact level of the civilizational complexity and its transformation from autonomous villages to the state structure is not understood. It is not even clear if the Harappan society indeed reached the social structure of a state or if it essentially remained a stateless entity (42).

Interpretations concerning the political organization of the Harappan civilization vary widely because, theoretical viewpoints aside, proportionately little of the civilization has been horizontally excavated, and its script is limited in occurrence and has not been deciphered. Regarding the first point, barely a dozen of the known sites with Mature Harappan ceramics have undergone excavation beyond test soundings, and of these, only two or three village-size settlements have been uncovered. Furthermore, some of the major excavations were undertaken before the realization that data such as bone counts, ceramic frequencies, sediment studies, or lithic analysis could reveal significant information on ancient cultures. Any "conclusions," then, regarding Harappan political organization, which is an especially difficult cultural subsystem to reconstruct under even the most ideal circumstances, must be regarded as highly speculative.

The formation of the early states in South Asia is a relatively new subject of research and most of the work done so far comes with reference to the rise of petty kingdoms of the Vedic Aryans and the Aryanized Indus tribes in the general area of the Indo-Gangetic Divide. Little work is at hand that touches upon the state formation in the Indus Valley during the Indus Age. We are therefore constrained to refer to the vast amount of theoretical work that has been conducted in reference to the rise of early states in the Near East or elsewhere. These theoretical considerations are quite useful in examining the situation in the Indus Valley during the Harappan Civilization, although they may not offer us completely madeup answers.

The Harappan society has been defined as a complex chiefdom by some scholars (43,44,45) and a state level society by others (32,46,47). Generally speaking complex chiefdoms have one large settlement and only one or two levels of smaller satellite towns or villages. State level society, on the other hand, tends to be more stratified, with multiple large settlements competing for political and economic power. It is unlikely that these differences can be easily identified archaeologically and many scholars now prefer to focus on the questions of hierarchy and heterarchy rather than on

chiefdom and state. Still, the debate on Harappan state or non-state is alive and arguments surrounding the social organization of the Indus Civilization often end up with the question whether this civilization was a state or not.

The concept of a 'state' is highly debated amongst archaeologists but has generally been envisioned as a form of political organization with a centralized leadership and economy, and a hierarchically ranked social system. Hierarchy refers to the ranking of elements in society using specific criteria, such as size, complexity, status, and power. Heterarchy refers to the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways (34). For the states to emerge, it is necessary that they have a sufficient number of people to form a complex stratified society, control a specified territory and have a surplus to maintain the specialists and the privileged. mechanism which explains and justifies a hierarchical administrative organization and socio-political inequality (42).

The Harappan cities are characterized by an oft-repeated quote: "monotonous rigid regularity of blocks after blocks of brick houses, with broad main streets (drains, etc.); varying buildings with high technical and architectural standards. All these features continue in their materials and techniques unchanged for several centuries" (4). It is then argued that such a 'rigid regularity' could not have been achieved without a 'rigid' central authority. This correlation produced the idea in Harappan archaeology that there must have existed a central authority, probably a 'Priest-King' who directed the affairs of the city or the state structure that ensured the standardization of artifacts, procured the hard-to-get raw materials, and directed the long-distance trade. This hypothesis is still the stuff of our textbooks, although in view of recent investigations, there is little evidence for such a single supreme authority that governed the entire civilizational area.

The concept of subordinated communities, ruled by an emperor, king, or a section of the elite within the Indus realm stems from the earliest excavations of Mohenjo-daro and Harappa, when Sir John Marshall first recognized the similarities between the two sites.These two sites, significantly larger than any other known site at the time, became the focal point of the majority of socio-political interpretations of the Indus Valley. In their reconstructions of Indus society, both Wheeler and Piggott identified Mohenjo-daro and Harappa Wheeler planned cities with rectangular blocks dissected by well-drained streets dominated by an acropolis or 'citadel' mound. These citadel mounds were

Furthermore, there must exist a to enforce rules and regulations,

as the 'twin capitals' of an empire. drew attention to the methodically crowned with 'ritual buildings', including the 'state granary' at Mohenjo-daro which was the 'focal point of the regime', whilst at Harappa there were supplementary granaries that were 'marshalled on the lower ground'. Lothal was described as a 'regimented coastal township'. Wheeler used the terms such as *state, regime, marshalled,* and *regimented,* which presented an image of military or political domination achieved through the use of force, similar in nature to the later Kushan, Mughal, and Raj empires in South Asia.

Piggott developed Wheeler's concept of imperial hierarchies by heavily emphasizing the agrarian character of the Indus Civilization, envisaging a "considerable agricultural population producing an adequate surplus beyond its immediate needs for sale to the towns". The uniformity of artifacts and materials within the Indus Valley was explained through a rigidly enforced set of laws, a strongly established commercial code and standardization of manufacturing techniques. Piggott not only

viewed the Indus Valley Tradition as spatially uniform, but also temporally uniform. Throughout nine phases of rebuilding at Mohenjodaro during a 700-year period Piggott identified little change in the material culture of the site, something he highlighted as indicative of cultural conservatism and possible cultural stagnation. The parallel he drew was not with the Near Eastern communities with which Wheeler identified, but Central and South America polities with their ‘rigorously authoritarian rule and elaborate religious conceptions’. Finally, Piggott inferred an indigenous origin for the Indus Valley Tradition, albeit with some external influence as to concepts of urbanization and statehood.

Piggott and Wheeler both assigned a theocratic nature to the social structure of the Indus cities. As Piggott put it: “It is clear that the potent forces behind the organization of the Harappan kingdom cannot have been wholly secular, and there is, as we have already seen, more than a hint that the priesthood of some religion played a very important part in the regulation of the Harappan economy from within the walls of the citadels of the two capital cities.” (4). The partnering of the ’citadels’ with the Priest-King equated the Indus cities with the better-known urban centers of Mesopotamia, and the Mediterranean.

The influence of Gordon Child’s thoughts also have had a tremendous effect on the reconstruction of socio-political structure of the Indus Civilization. Although Childe initially presumed a direct link between Mesopotamia and the emergence of civilization within the Indus, it was not until the fourth edition of his *New Light on the Most Ancient East* (published at a similar time to Wheeler and Piggott's seminal works) that he questioned the notion of external stimuli as the catalyst for urbanization in the Indus Valley, citing evidence of early occupations and urbanization at Kot Diji and Amri (48). Childe also questioned whether political rule was hereditary, as had been traditionally assumed till then, and proposed the concept of competing groups vying for political control.This concept of non-hereditary political rule pervades the more recent city-state series

of models (25,46).

For Childe, the crux of the Indus Valley economy lay in the agricultural potential of the alluvial river valley, despite the self-confessed lack of archaeological evidence for large-scale agricultural practices or irrigation works. Childe, however, retained and developed ideas of subordinated communities developed by Marshall, in particular the concept of a racial hierarchy. Childe

stated that the Proto-Australoid element of the population was subservient to the ‘Sumerian’, ‘Eurasian’, or ‘Mediterranean’ population. He also explicitly equated the ‘Proto-Australoid’ element of Indus society with modern Dravidian populations of South India, whilst the ‘Mediterranean’ population were immigrants from the west who brought

with them the concept of ‘civilization’ (40). He likened the Indus Priest-kings with the Sumerian ‘city god’ and the Egyptian pharaoh, whose power resided in control over the urban granaries and the concentration of agricultural wealth. As such,

this racial division became not only a social hierarchy, but also an economic one.

Childe interpreted the Harappan social organization as a form of economic exploitation, as opposed to the theocratic dictatorship proposed by Marshall and Wheeler. Rather quarters, Childe interpreted the small two-roomed structures of Harappa and Mohenjo-daro as housing artisans, most likely bonded to the Indus bourgeois who inhabited the spacious two-storied houses of the lower town. He

also maintained the citadel-lower town divide of rulers and ruled, though he suggests that wealthy merchants and traders from the largest cities supported the ruling king. However, he did not indicate whether this ruling figure would have been hereditary or if there were competing groups involved in struggles for power. Childe envisaged a society that was heavily dependent upon economic cooperation between the various cities within the Indus Valley region, and argued that political rule was mostly secular.

Fairservis (49), on the other hand, developed concept of decentralization and the lack of state-level institutions in the Harappan society by proposing that the Mature Harappan society was organized along the lines of a developed chiefdom. Influenced by the growing number of small sites (<1ha) being identified and emerging evidence of short-term occupation of many sites including Mohenjo-daro, he suggested a model of political organization centered upon cattle herding and pastoralism. Although some later archaeologists incorporated an element of pastoralism into their peripheries (25), Fairservis placed the pasreinforced by Piggott and

than 'coolie-lines' or servant toral communities at the core of the Indus Valley Tradition. The concept that 'wealth' - in the form of cattle - lay outside of the urban centers may explain the contradictions evident in the Indus Valley cities when compared to other contemporary civilizations.

Also, rejecting concept of a strong centralized governing body, Shaffer suggested that the similarity and homogeneity in style and manufacture reflects the existence of an intensive internal distribution system rather than a central government. Furthermore, he suggested that even the smallest sites, such as Allahdino, have yielded examples of almost every known Indus artifact form, even gold, silver, and semiprecious stone, indicating practically no difference between a Harappan city and a Harappan village.

Kenoyer and Possehl, along with Maisels, and Thompson have suggested that the single state concept is not applicable to the Indus Civilization, as evidence of centralized control - such as the palaces, temples and differentiated burials seen in other early states like Mesopotamia - are not present at any of the cities. Rather, they have argued that the Indus Civilization comprises regional polities or city–states. Trade and exchange is seen as key to the social organization of the Indus Civilization. It has integrated the cities with their hinterlands and with other city–states. Such a model, while negating the existence of a central authority, replaces religion or 'ideology' with the integrating forces of trade and exchange. The activities of trade and exchange to take place, one does not need a supreme authority for direction.

According to some other interpretations, the uniform pattern of planned areas and their division into specialized areas indicates more the possibility of the continuity of tradition through descent rather than by means of superimposed sanctions of political leadership, religion, or trade. In the words of Sir Mortimer Wheeler: "....... which [trade and commerce] is possible due to the continuity of social classes, and their occupations. This specialization of hereditary arts, crafts and technology is normal in corporate groups when occupations are handed down from father to son. This has been the case throughout human history until the last two centuries which have been affected by industrial civilization. The continuity of residential groups also suggests hereditary occupational traditions" (37).

The use of coercion looms large on the models of political control of the Harappan society, especially for enforcing the cultural uniformity and standardization of weights and measures, as well

as planning and maintaining of Harappan cities. It was probably a function more of complex social stratification of society, the institutionalization of norms, and values of socio-political control rather than coercion. Hence, material uniformity and planning does not imply any unitary common socio-political authority. Authority in this case seldom existed solely in political terms, for it is interrelated with religion which maintains rites and rituals. These values or ‘ideology’ seems to be common over a large area of the Harappan Civilization although their actual realization may have varied from city to city and region to region. As we know today, many of the cities in the world have a common pattern of planning and other arrangements, but the socio-political system on which they have been built range from democratic to totalitarian principles. Of course, we must look at urban areas that existed at pre-civilizational levels. For example, while we may say that there was the beginning of class society in the Early Indus period, it was in the sense of hierarchical differentiation in the means of production rather than class-consciousness or interclass struggle as such (50).

Then, there is the model of ‘heterarchy’. Based on comparisons with Early Historic polities, Harappan cities were probably comprised of competing non-hierachical’ groups whose centers of power would have been within each of the separate walled mounds at Mohenjo-daro and Harappa, or in the acropolis at Dholavira. These individual groups were internally organized in a hierarchical system. Fluctuations in dominance between the communities on each of the mounds probably contributed to the economic development and the rapid build up of the city as a whole. The caste system, prevalent throughout South Asia, is an example of such a system.

Although the idea of a Harappan State is loosing its strength, there are still some scholars, such as Jacobson (47) and Ratnagar (32), who strongly advocate the existence a centralized authority that permeated through whole of the area covered by the Indus Civilization. As indicated above, they take their evidence from an extraordinary level of similarity in material culture throughout the Civilization and the planning of cities and towns. These arguments are examined in the next chapter in some detail. Then, there are arguments which admit the Harappans to a statelevel society but deny them a central state. Instead, they envision the Harappan political organization as a commonwealth of city-states.. Finally, there are those, who believe that the Harappans had not yet achieved the status of a state-level society and that they were basically a stateless polity (51).

The Role of Religion and Ideology: Religion and ideology are two concepts featuring prominently in discussions of the Indus Civilization and its decay and demise. Harappan Ideology often figures prominently in such debates. The proposed relevance of 'ideology' to Indus society varies greatly; encompassing a means of social control; a means of explaining the lack of decorative embellishment and 'sameness' of the material culture', a means for the rulers to claim legitimacy, or as an explanation as to why there is no apparent social stratification. In the supposed absence of monopolized force, and perhaps even dominant elites, ideology or religion have been invoked as explanations for the means of social control. Likewise, Malik proposed that 'discipline (was) enforced by ideological reasons, or by a superstructure of values' (24). Kenoyer suggests that social control could have been achieved through trade and religion (25), clearly associated to his proposal that the 'rulers' of the Indus were 'wealthy merchants, powerful landlords or spiritual leaders' (25).

The role of religion in the legitimization of the Indus rulers is not a new concept; the 'Priestkings' of Wheeler and Piggott are well known. Yet, despite the debunking of this interpretation, the link between rulers and religion remains in recent works. Kenoyer further writes that 'religion and politics appear to have been closely intertwined' (25). Daniel Miller envisions a society where power resides

in the 'organizational forms which ensured the reproduction of order', proposing that adherence to an ideology of as- ceticism was responsible for many of the seem- ingly unique features of the civilization (13). Based on comparisons with Egypt and the Maya (societies deemed to have a similar 'static quality' to the Indus), Fairservis suggested that religion was the primary intensifying force in the integration of the Indus Civilization, and proposed that Mohenjo-daro was 'purely a ceremonial centre'. This interpretation has been adopted by Wheatley (26), and is echoed in Flam's description of Indus sites' high mounds as 'aero-sanctums' (quoted in ref. 30). Possehl also proposes that ideology was the unifying factor responsible for the apparent cultural unity which appears at the beginning of the Mature Harappan period (10,27).

Comparative Approaches and the Indus Civilization: The difficulties in interpreting the archaeological record of the Indus Civilization, in contrast to other contemporary societies, has led to the latter (primarily Mesopotamia) having been used as a benchmark in the interpretation of the former. The use of implicit comparison is therefore quite common in interpretations of the Indus. Explicit comparisons have also been frequent, although seldom structured beyond mere observations of similarities and dissimilarities between various parts of the archaeological record. Most commonly, archaeologists have looked either to Mesopotamia or Hinduism (when dealing with Indus religion), although Piggott (4) was somewhat indiscriminate in his inclusion of Egypt, Rome and Mesoamerica.

As Possehl (52) rightly points out, many of these comparisons (especially earlier ones) cannot be considered as rigorous or well-reasoned, and many employ uncritically Mesopotamian concepts and data. Comparisons drawn between the Indus and Mesopotamia pepper the earliest excavation reports, particularly in the work of Mackay, who had previously excavated in Iraq. Significantly, he made a number of comments (such as the relative fragility and inefficiency of copper weaponry compared to Mesopotamia) that both had a profound effect on later thinking, and set the precedent for viewing contemporary societies further west as a benchmark by which the Indus was somehow supposed to be measured - and usually found wanting.

This viewpoint is particularly evident in the work of Piggott, Wheeler and Gordon. Piggott and Gordon in particular are quite negative in their discussions of Indus culture, and all three share a diffusionist approach that strongly directs their use of comparative material. Piggott (4) makes liberal and unqualified use of comparisons and analogy in his discussion of Indus Civilization. References are made to Sumer, Akkad, Egypt, Rome, Mesoamerica and modern Hinduism; seemingly wherever a parallel is found, and with no consideration of context. The 'granaries' and street plans are likened to those of ancient Rome, and Harappa's 'coolie lines' to buildings at Tel elAmarra. Religious elements with parallels in later Hindu practices are noted in a reworking of Marshall's original essay on Indus religion (53). Less frequently, but more significantly, Piggott makes value-judgments based on a comparison with another society, such as his claim that the Indus embodied 'the worst of Rome' in its apparent cultural uniformity, or that it was technologically inferior to Sumer and Egypt, and comparable with Pre-Columbian Mesoamerica. Gordon (54) does not attempt formal comparisons, but it is once again clear that assumptions based upon informal comparison are guiding Gordon: most 'innovation' is therefore held to have diffused from Sumer and Elam, including urbanism, technology and even bitumen. When this stream of new ideas stopped, Indus culture slowly stagnated and fell apart. Wheeler is, of course, famous for his attempt to move beyond a purely diffusionist explanation of the origins of Indus culture, stating that only 'the idea of civilization' need have been borrowed from West Asian societies (37). This, unsurprisingly, has not proved any more popular an

interpretation than Piggott or Gordon's. Wheeler also uses comparisons with Mesopotamian data to suggest the inferiority of Indus weaponry (37).

This tradition of attributing the arrival of 'civilization' in the subcontinent to diffusion from the West has had an understandable and profound impact upon South Asian scholars' attitude towards discussions of Mesopotamia and Mesopotamian data. Some authors overtly criticize the position, but most simply make very little mention of Mesopotamia in their treatments of the Indus, and certainly do not use it as an interpretative tool with which to better understand the Indus. Chakrabarti (56) makes no mention of Mesopotamian influence or data, stating that the Indus has to be 'understood in its own terms' (56), and drawing the occasional parallels to early historic India and modern Hindu practice. In a similar manner, Gupta (57) denies any influence on the Indus by Mesopotamia, only mentioning the latter in a discussion of trade routes, and Lal (58) has produced a book which sets about identifying stylistic links between Indus and modern Hindu material culture. Dhavalikar (59) and Agrawal (60) only mention Mesopotamia in the context of external trade, but Lal (61) adds to this the suggestion that Indus weaponry appears underdeveloped in comparison to that in Mesopotamia. In contrast, Ratnagar has made significant use of Mesopotamian data as an interpretive device; but in general it appears an uncommon practice amongst archaeologists from South Asia.

The most significant formal comparisons recently made by Indus scholars have been attempted by Ratnagar, Kenoyer and Parpola. Ratnagar (32) compares proposed palaces at Mohenjo-daro with those in various Mesopotamian cities. The reasoning behind this approach is clear: palaces, or buildings performing palatial functions, conforming to conventional understanding generated by predominantly Mesopotamian and Egyptian examples are seemingly absent from the Indus. Ratnagar's methodology tested this position by comparing an attribute of Mesopotamian palaces also measurable for Indus architecture: building size. Although excessively large size is not necessarily a feature of all palaces (a point Ratnagar acknowledges), the study is notable for its approach; it essentially tests a statement made of a society by comparing the archaeological data used in support of that statement, rather than remaining at the level of statements and interpretations.

Kenoyer's interests and methodology are far broader, using the evidence from later early historic states in India to tackle the issue of Indus statehood. In a sense, he is using the comparative method to test a statement (that the Indus was not a state-level society), by comparing it with later societies which are generally agreed to have been such. However, the analysis is not so formally structured as Ratnagar's, which examines a far narrower and more tightly defined statement, and which makes explicit use of specific and quantified archaeological data. Parpola's use of the comparative method lies in his desire to better understand the iconography of Indus stamp seals. His approach is primarily analogical, drawing attention to stylistic similarities between Indus iconography and that of societies further west (55,62) or later Hindu culture (55). As such, Parpola's approach is limited to suggested interpretations of the iconography, based on stylistically similar material from elsewhere.

Harappan versus Mesopotamian: For some time now there has been a tendency to describe the Harappan material culture as well as the socio-political constructs of the Harappan Civilization in the idiom of Mesopotamia. The interpretational aspects of Harappan-versusMesopotamia has been touch upon in the above. A fundamental contrast between the Mesopotamian and Harappan situation is in matters of scale. The occupied area of the alluvium between the Tigris and Euphrates in about the middle of the third millennium - when Harappan Civilization entered its urban stage - was around 65,000 square kilometers, while the cultivated valley of the Nile, at 34,440 square kilometers,

amounts to only half that. By contrast, the Indus Civilization extended roughly 1,000 kilometers north to south and east to west, covering an area of around 1,000,000 square kilometers. This is nearly twenty times the area of Egypt, and over ten times the settled area of Egypt and Mesopotamia combined.

Another contrast of a fundamental nature is the nature of the relationship of the cities with the rural areas. A common pattern in early cities of Mesopotamia was a mutual dependency between rural and urban dwellers. No such dependency is, however, evident in case of the Harappans.

Allchin and Allchin (32) report population estimates for Mohenjodaro and Harappa of around 30,000 and 40,000, respectively, which is in the same order of magnitude as Mesopotamian cities. The difference, however, lies in the sheer number of Mesopotamian cities, which on the southern alluvium could even be in sight of one another, in turn reflecting fundamental differences in the relationships between centers and hinterland. The consequence is a different level and type of urbanization, as between Sumer and Harappa, with nearly double the percentage (78 per cent) of the Sumerian population living in settlements above 40 hectares as the Harappan (44 per cent). Accordingly, Sumer was a society of city-states whose populations had a strong civic consciousness. Harappan society consisted of an extensive oecumene or commonwealth, with a largely village-based population which the cities helped to integrate economically and culturally.

Thesecitieswerespacedfairlyevenly throughout the Harappan realm and were separated from each other by 280 to 600 kilometers. It is interesting to compare this arrangement with that in Sumer where the cities were far more numerous and were situated only about 20-60 kilometers apart, distributed lineally since they were confined to the narrow floodplain of the Euphrates.

Summary: To summarize the evidence so far, a set of problems have been noted for the conventional and some of the recent interpretations of the material evidence for Harappan society. All previous writers have commented upon some of the features described above, in particular the manifest social differentiation in the Harappan society and the degree of homogeneity in the material culture, which leads us to the working of city and state. As Daniel Miller emphasizes, to interpret anyone of these features, they must be considered in the context of all the others.

The conventional model of a high degree of social stratification, supported by a large-scale external trade and a redistributive economy, has gone through a series of developments.The evidence attested by such authors has been radically criticized in later writings. They have successfully demonstrated the variability of subsistence activities and modes of burial and some regional differentiation but they have not acknowledged the implications of their own failures to demonstrate significant variability in other domains. Much of the writing is influenced by two sets of comparisons, one harkens to the ancient Middle East which provides the model of redistribution, slavery, and temples, and the other to contemporary South Asian society, which brings forth caste or guild-like groups.

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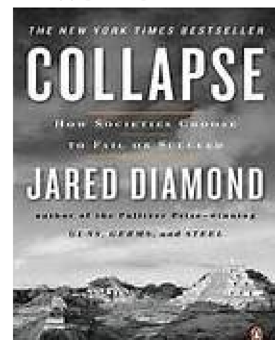
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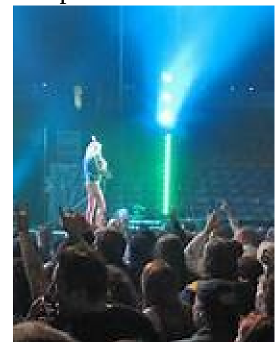
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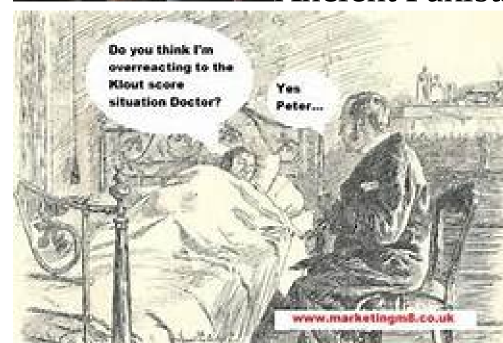
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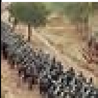
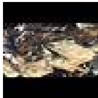
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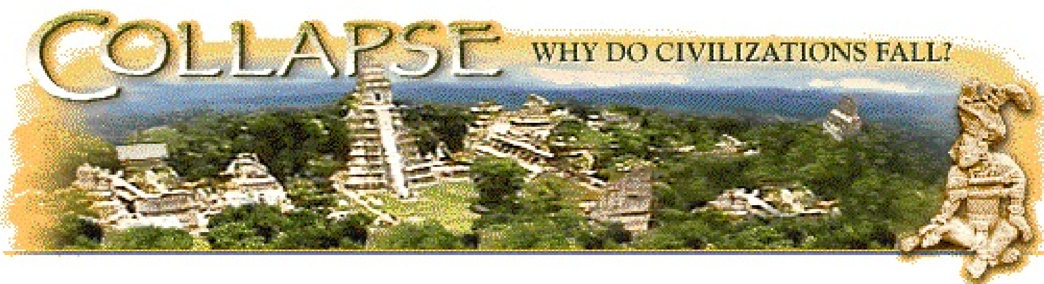
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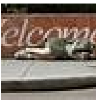
maintain large-scale inegalitarian structures for Nuclear Holocaust … of time.



The image of the origins of the Indus Civilization is compelling but more so is its decay and demise. What happened? How could such a flourishing civilization could collapse with such a speed and with such a clean sweep? Did the people degrade their environment, did the climate change, or did civil conflict lead to collapse? Did



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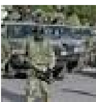


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When Will Society

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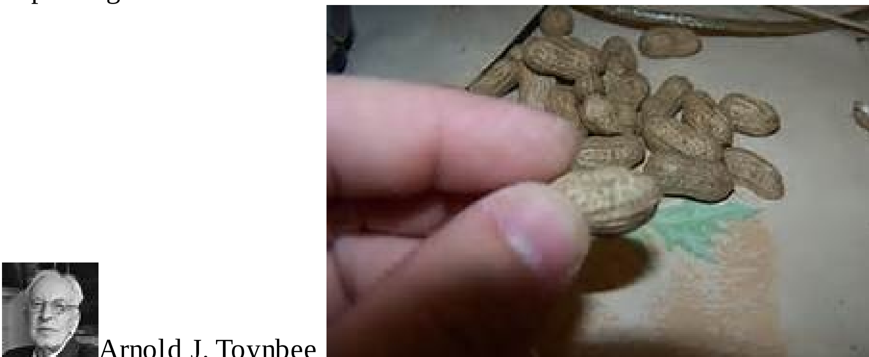
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foreign invaders put these magnificent cities to an
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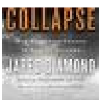
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namic to the rise and fall of all civilizations? Some from region to region, depending on a number of

Arnold J. Toynbee 

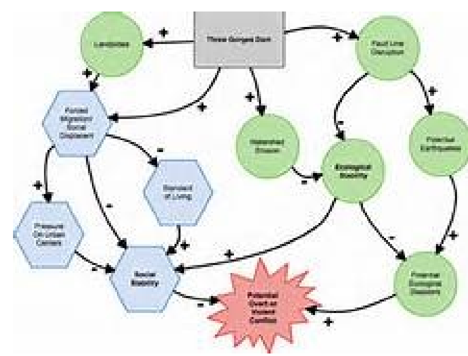
of us are fascinated by these questions and want to learn more. Some of us encounter the dilemma of fallen cities and peaceful living in casual reading. The image is troublesome to all, not only for the vast human endeavors that have mysteriously failed, but also for the enduring implication of these failures in the history of ancient peoples, local factors.

Human history as a whole has been characterized by a seemingly inexorable trend toward



higher levels of complexity, specialization, and sociopolitical control, processing of greater quantities of energy and information, formation of ever larger settlements, and development of more

Collapse: How Societies Choose to Fail or Succ…



including those of ancient Pakistan.



Causes of Decline: Several scholars have written and debated on the possible causes of the decline, if not the end, of this remarkable civiliza tion of the Indus Valley. Their explanations are forceful and varied, based on particular data set, and their arguments range from human interfer ence like invasions and population growth, to natural causes such as earthquakes, climate change, and hydrological changes. These mani



fold causes and the enabling factors have been much debated. Scholars do not refer to invasions as much as they used to, but they frequently con sider other external variables such as climate change, particularly episodes of desiccation that weakened the agricultural base of urban societies dependent on agricultural surpluses. Other ap proaches emphasize internal variables, noting the



complex and capable technologies. This persis



tent aspect of our history has rightfully received an overwhelming amount of research and archaeologists have traditionally devoted much attention to the rise of civilizations, producing scores of studies that attempt to account for the origin, development, and growth of particular states. As a result, we are beginning to understand how this came about. Yet the instances



when this almost universal trend has been dis



rupted by collapse have not received a corresponding level of attention. To be sure, innumerable writers have produced myriad explanations of collapse; but even so, understanding disintegration has remained a distinctly minor concern in the social sciences.

Indus Civilization was not the only civilizatendency of complex societies to impose heavy



tion that flourished for



sometime and then col

demands on their physical environments, render
ing agricultural systems vulnerable to crisis. Ideo
logical failures may occur as a consequence of
other failures of central authority: if the economy
suffers or the government neglects to perform its
expected tasks in other ways, the populace may
lapsed; there were scores of them. For most of them we know as little as we know of the Indus Civilization but for a few we know much more: the name of the Roman Empire quickly comes to our mind. Explanations of collapse of these civilizations have tended to be *ad hoc*, pertaining only to



one or a few societies, so that a general understanding remains elusive. At the same time, as will be shown, such theories have suffered in common from a number of conceptual and logical failings. Although a lot has been written on why such and such empire, state, or an entire civilization collapsed, beginning from the classic Greek period to the great Muslim historian Ibn Khaldun, to the most recent times, these studies have been case-specific. It is only in recent years that collapse of civilizations has started to be discussed as a universal phenomenon and the crossreferrals to other cases have come in vogue. Here we do not indulge ourselves in search of a universal solution to collapse, a universal solution which could be equally applicable to the Harappan Civilization as it did to other civilizations. At the same time, however, we do not want to shy away from ideas that have been proposed for explaining the collapse of some other civilizations in other parts of the world.

The theories on the collapse of the Indus Civilization are strong on speculations but weak on evidence. Reason is simple; There are no written records, there are no commentaries just after the collapse, there is no coherent picture of the post-Harappan landscape. In view of this situation, our source of information or at least that of informed speculations is the comparative studies of other early civilizations. Some of these civilizations have been better studied and we may learn something

which could be applicable to the collapse of the Indus Civilization. This is a work of archaeology and history, but more basically of social theory. We shall examine here these theories and will hope that it may serve to understand the ‘causes’ or the ‘enabling factors’ of the collapse of the Indus Civilization. This review is largely based on the vast amount of material offered by aTinter (4). We may still not reach a conclusion, but at least it should provide us with a sound foundation for our speculations.

Although collapse of this civilization has been of interest since its very discovery on the Indus plains, it has remained a mystery for historians, social scientists, and archaeologists alike. Perhaps because of this, the development of political complexity, the ‘origins’, of the Harappan Civilization has attracted more scholarly attention than collapse, its antithesis. It is not for lack of effort that collapse of the Harappan Civilization is still a little understood process. The research devoted to this subject is substantial, and has produced a literature which clearly reflects the significance of the subject. But, most of this literature is superficial, mostly reiterating the opinions of the preceding scholars, and devoid of any comparison with other civilizations. The result is that, in the words of Dales (3), the decline and fall of the Indus Civilization remains “one of the most enigmatic whodunits of antiquity”.

Enabling Factors for the Collapse of Civilizations

Event-based factors:
Floods
Shifting river courses
Tectonic upheavals
Disease and pestilence
Chance of concatenation of events

External Factors
Competition with other complex societies Decrease in trade
Intruders

Economic Factors
Tainter’s theory of Marginal Returns
Depletion of Vital Resources
Ecological degradation
Climate Change (shifting rain pattern) New resource base
Social and Cultural Issues:
Insufficient response to circumstances Social imbalance, Internal strife of the elites, revolts of the peasants, etc.
Social dysfunction
Mystical factors (e.g. Decadence)

Classification of Theories: Joseph Tainter (4) lists 10 odd categories of theories that have been offered to explain the collapse of some early historic and prehistoric civilizations. He then adds one of his own. It appears that almost all of these theories have some relevance to the case of the Harappan Civilization, we therefore choose to follow this list, though regrouping these factors somewhat differently.

As simple as it is to present this classification, there are still ambiguities. There is much overlap in the categories listed, while some themes could be subdivided further. The assignment of authors to

themes adds another level of uncertainty, for many fall easily into more than one class. Other investigators, including the authors so classified, might legitimately assign them to different themes, or even devise an alternative classification. The present classification is based on an assessment of the *major* approaches and assumptions.

The Harappan Civilization did not last very long, merely a short period of five to seven centuries. In this respect it was rather a fragile, impermanent thing. This fact inevitably captures our attention, and however we might wish otherwise, prompts disturbing questions.

EVENT-BASED FACTORS

Single-event catastrophes, such things as floods, hurricanes, volcanic eruptions, earthquakes, or major disease epidemics, are enduring favorites for explaining collapse (5). There is something so appealing in simple solutions to complex processes that it is not likely that such ideas will ever go out of fashion. It is interesting to note that students of paleontology are as attracted to simple catastrophe theories to explain the disappearance of the dinosaurs, or other life forms, as social scientists are for understanding collapse (6). Catastrophe scenarios are old. Plato's *Critias* and *Timaeus* characterize the demise of the mythical Atlantis in such terms. The Biblical flood, and similar stories, fall into this theme.

Several catastrophic events have been invoked for the destruction of the Harappan cities; catastrophic floods for the destruction of Mohenjodaro, earthquake for the demolition of Kalibangan, and a series of tectonic activities in Makran for shaking up the environment around Sutkagen-dor and Sotka-koh. Although these theories may be successful in explaining the abandonment or destruction of individual cities, they all fail to account for the fall of the Indus Civilization in its totality at more-or-less the same time. How the destruction of one city by an earthquake, for example, could bring down the whole Indus Valley or how a spread of pestilence in the South effect the vast area in the north? Such objections are acknowledged by the proponents of catastrophic theories but not addressed adequately.



Floods *:* A central feature of the distribution area of the Harappan Civilization is the alluvial character of the land in which the majority of its settlements flourished. Mohenjo-daro, Chanhu-daro and Kot

Diji grew in the vicinity of the Indus; Harappa on the Ravi; Ropar on the banks of the Sutlej; and Ganweriwala, and Kalibangan on Ghaggar-Hakra river-braids. In Gujarat too, the Bhadar and Sabarmati rivers provided the setting for Rangpur and Lothal, respectively. The dynamic histories of many of these rivers is the other element which has been so striking. This theme has attracted a great deal of attention and research. Innumerable meander scars, sand encroachments and depressions, all apparently fragments of old drainage systems, have been identified - not only in the core Indus flood plain but in many other areas as well.

Inevitably, the debate over the end of the Indus Civilization has been strongly influenced by this geographical frame of reference. That the rivers which nurtured the Harappans also wreaked fatal devastation. Apart from its historiographic significance, the description of silt debris intervening between phases of occupation there helps us in visualizing the character of Indus floods and the possible damage that Mackay believed they had wrought. He wrote: "... the people of the Harappan culture, both at Mohenjo-daro and Chanhudaro, found in their erratic river an enemy much more to be feared than any invader from outside". In fact, he was convinced that 'the decline of the great

civilization...was due to the impossibility of occupying sites that were continually being surrounded by large sheets of water".

Mackay reached this conclusion on the basis of archaeological record at Mohenjo-daro, which showed that various periods of occupation were separated by evidence of deep flooding. This can be inferred from the fact that the houses and streets of Mohenjo-daro were covered with silty clay and collapsed building material many times in its later history. This silty clay seems to have been left by the flood waters which had ostensibly submerged the streets and houses of the city. The people of Mohenjo-daro again built up houses and streets on top of the debris of the previous buildings, after the floods had receded, but they apparently tired themselves out, trying to cope with these recurring floods. A stage came when the impoverished Harappans could not take it any more and they simply abandoned the settlement.

Even before Mackay's work, Marshall had assumed that the inhabitants of Mohenjo-daro, who depended in great measure on the Indus, must also have lived in ever-present dread of its inundations. Again, many decades later, the destructive role of floods was invoked by S.R. Rao, now to explain the devastation of Lothal. In his report on Lothal in 1979, S.R Rao argued for a series of overwhelming floods at the end of virtually each phase of occupation at the site: "as a sequel to the great flood at the end of Phase IV the destruction of the township and dock at Lothal was complete" (99).

If the focus of Mackay and Rao has been on the detrimental inundations of unpredictable rivers, M.R. Sahni considered, perhaps for the first time, that the waters that devastated Harappan sites, at least in Sind, were not part of the normal regimen of over-flooding and siltation. Instead, the flood that destroyed the civilization was unprecedented and a product of earthquakes. A collision of earth plates resulted in the uplifting of land. Consequently, the Indus was dammed, leading to the submergence of large areas of the lower plains. The tectonic episode of 1819, when violent earth movements resulted in the creation of a dam *(Allah Bund)* across the eastern channel of the Indus in Kutch provided an ethnographic analogy to what was being posited. Sahni found unconsolidated thick alluvium containing freshwater shells. This suggested to him an exceptional rise in water level and a period of long submergence. He also discovered two settlements in Sind which he believed were of Harappan vintage. These were covered with thick alluvium, deposited by floods, which must have destroyed the settlements.

The flood theory was put in its most comprehensive form by R.L. Raikes in context of Mohenjodaro (9,11). He argued that the total accumulated depth of the silt both below and above the modern plain was about 21 m or more. The accumulation of silty clay of this kind could not be explained by the normal flood regime of the Indus but required the emergence of a lake south and downstream of Mohenjodaro. This lake could in its turn be due to the damming of the Indus course downstream of Mohenjodaro by some tectonic upheaval. The dam which came up was permeing mud, mud brick and baked brick structures, produced what has been mistaken for silt produced by floods.

Possehl asks: "Is it necessary to believe that just because the Indus River was impounded, the Harappan Civilization came to an end? If the Mature Harappan culture succumbed to new and unpredictable riverine forces, the explanation sought by historians and social scientists lies not directly with geomorphological matters but, rather, with the internal structure of the Harappan way of life. The "flaw" that would have led to such catastrophic socio-cultural change is not to be found within the natural world of geomorphology but

within the human context of the Harap



The great River in flood

pan civilization, its society and culture" (12).
Having said that, he hasten to add that the Indus did affect the fortunes of the Harappans in more than one way. Frequent floods were sapping their energy. Their raised platforms and massive bunds indicate the severity of the problem. The Indus River has been raising its flood level, continuously necessitating safeguard measures. The water table could itself rise, thus destablizing buildings, causing salinity increase and rendering vast tracts useless for agriculture. The Indus could also leave Mohenjo-daro and other cities high and dry by changing its courses drastically. Whether these travails make the

able, allowing the water to seep through, but the clay of the silt would have been retained and accumulated till it engulfed, so to speak, Mohenjodaro. Raikes' theory generated a lot of discussion and was debated even on the technical ground of the composition of his 'silty-clay' and other grounds.

This grand theory of the catastrophic fall of the Harappan Civilization is not accepted by many scholars. H.T. Lambrick (9), for example, points out that the idea that a river would be dammed in such a manner even by tectonic uplifts is incorrect due to two reasons:
i) Even if an earthquake artificially raised a bund down stream, the large volume of water from the Indus would easily breach it. In recent times in Sind, a swell of ground raised by the earthquake of 1819 was breached by the first flood it faced from one of the smaller streams of the Indus called Nara.
ii) Silt deposition would parallel the rising sequence of water in the hypothetical lake. It would take place along the bottom of the former course of the river. Thus, the silt of Mohenjo-daro might not be the deposition of a flood. Lambrick hypothesized (9) that the silt observed in the city is actually the product of wind action blowing in lots of sand and silt. This, combined with disintegrat



Hardpans leave their dwellings and move elsewhere, is, of course, another question.

Shifting Rivers: Lambrick offered his own explanation for the decline (9). He believed that changes in the course of the River Indus could be the cause of the destruction of Mohenjo-daro.

The Indus is an unstable river system which keeps shifting its bed. The people of the city and the surrounding food production villages deserted the area because they were starved of water. This kind of thing happened many times in the history of Mohenjo-daro. Apparently, the river shifted about thirty miles away from Mohenjo-daro.This theory too cannot explain the decline of the Harappan Civilization in its totality. At best, it can explain the desertion of Mohenjo-daro. And, if the people of Mohenjo-daro were familiar with the kinds of shifts in the river course why could not they themselves shift to some new settlement and establish another city like Mohenjo-daro? Furthermore, if they could handle the consequences of the river shifts thirty times before, what befell them not to be the same resilience bunch now? Obviously, it appears that some other factors were at work.

The urban site of Kalibangan is located in the Indian Punjab and was, like Mohenjo-daro, abandoned in the 18th century BC. Here Raikes found the soil a "coarse grayish sand very similar in mineral content to that found in the bed of the present day Yamuna", the main river of the area. Raikes' hydrological and archaeological investigations indicate an "alternating capture of the Yamuna by the Indus and Ganges systems respectively" (13). Put simply, the Yamuna river switched back and forth between two primary river channels, causing abandonment or development of settlements, depending on the location of the allimportant river.

As in Sindh, this natural phenomena does not seem to have caused an immediate and complete

abandonment of Kalibangan, but rather a decrease in settlement size followed by a total abandonment after the water table eventually dropped so low that water could not be reached through well drilling. The quick rebirth of the site after the return of the Ghaggar is evidenced by the almost total lack of fired brick at the sites in their first century of redevelopment. This is due to the fact that the tamerisk forests, necessary for the firing of brick and themselves dependent on a local river for their growth, would have taken 100 years to be restored after the return of the river. As for the potential implication of this occurrence for the rest of the Indus Valley Civilization, Raikes notes that "in Sindh it would merely have been one more nail in a coffin already well closed" (13).

Like floods, the theory of shifting rivers is plausible only for specific sites, it fails to explain the decline of all Harappan sites and the abandonment of the vast area as the Hardpans gener

Interesting though this theory is, it has some problems. The drying up of the Ghaggar was not dated properly till very recent times. It also does not explain why the settlements around Harappa and Mohenjo-daro, as well as those on the west bank of the Indus were also abandoned. For these authors, the Ghaggar-Hakra region represented the core region of the Harappan Civilization; if the 'core' dried up, so did the whole civilization up to Sokta-Koh in southern Baluchistan! The Ghaggar-Hakra water streams did dry up at certain point in history and it did cause shifting of settlement sites in the region, but how could this event in a limited and specific area could affect the whole Indus Valley?



Tectonic Upheavals in the South: The importance of plate tectonics in the and Pakistan is recognized (18). The evidence for this is simple and indisputable: Harappan seaports along the Makran coast, such physical

cultural geography history of

today well

ally did.



Drying up the 'Sarasvati': The hypothesis of drying up of "Sarasvati" (the Ghaggar-Hakra River braids) has been offered as a cause for the collapse of the Harapas Sutkagen-dor, Sotka-koh, and Balakot, are now as far as 50 km inland. "These displaced ports make it evident that the coastline of Baluchistan had risen considerably during the past 4,000 years, with the initial rise apparently having occurred during the Harappan period" (19). The earthquakes associated with such an uplift would have been tremendous and the disruption of sea and land trade networks would have been devastating. The proximity to Arabian sea trade routes was, after all, the *raison d'etre* for sites such as Sutkagen-dor and Sitka-koh. This tectonic uplift, then, would explain the demise of several Harappan coastal sites, as well as imply a hardship for many other Harappan sites which were dependent on these coastal sites for trade and/or marine resources. Geological evidence for such an event is, however, hard to come by. Additionally, how could the disruption of coastal trade affect the trade routes that converged on Harappa, for example? Even if it did, why the Harappan could not develop alternative trade routes?

pan Civilization; it is now a favorite topic with most of the Indian scholars of ultra-nationalist colors.

Rivers Sutlej and Yamuna are supposed to be the tributaries of the "Sarasvati". Because of some tectonic disturbances, the Sutlej stream was captured by the Indus River and the Yamuna shifted east to join the Ganges. This kind of change in the river regime, which left the holy river waterless, would have catastrophic implication for the towns located in the Ghaggar-Hakra basin. Apparently, this story has also been accepted by western scholars without a critical look (14,15,16,17).



Disease and Pestilence: Another speculation is that the Harappans got inflicted with some epidemic that decimated their population. This is a very weak argument because in archaeological record we do not observe a drastic decrease in population in the core

area. Secondly, no sign of any unusual disease has been noticed in the skeletal analysis by Hemphill and Kennedy (20). The most prominent ailment was Malaria and this has been the fate of South Asia for a long time.

Chance Concatenation of Events: It is evident that no single catastrophic event could have brought the a civilization like the Indus Civilization to its knees. There must be a chance concatenation to have profound effect and quite a few scholars subscribe to this opinion. They would refer to Willey and Shimkin on the Maya (10), and Butzer on Egypt (21,22), where concurrent outbreaks of clusters of

problems and weaknesses disintegrated their respective societies. The great Classical historian J. B. Bury (23) argued that there was no general explanation for the fall of Rome, that it resulted from a series of contingent events. The irruption of the Huns drove the Visigoths into the Illyrian provinces. The Roman government mismanaged this problem, and so lost the disastrous battle of Hadrianople (A.D. 378). Federate barbarian nations were then settled within the empire. There was the treachery of Stilicho, and dependence on barbarians to man the army (23). Charles Diehl argued that a combination of events led to the decay of Byzantium: loss of agricultural lands, the formation of large estates, and unsuccessful economic competition with the Venetians (24).

This argument goes too far, but there is some validity to the notion that random factors influence all historic processes. But, to the extent that random factors occur with some statistical regularity over time, they cannot account for a phenomenon far more limited in its occurrence. In the Harappan case, no one has so far been able to cite a concatenation of catastrophic events, although such a belief is still commonplace.

A General Critique on Catastrophic Events: As obvious and favored as catastrophe scenarios are, they are generally among the weakest explanations of collapse. The fundamental problem is that complex societies routinely withstand catastrophes without collapsing. Thus, catastrophe arguments present an incomplete causal chain: the basic assumption, rarely explicated, must be that the catastrophes in question somehow exceeded the abilities of the societies to absorb and recover from disaster. As Tainter points out (4), if the assumption is correct, then the interesting factor is no longer the catastrophe but the society.

As a matter of practicality, though, catastrophe explanations are too simple to accommodate the complexities of human societies and the collapse process. Human societies encounter catastrophes all the time. They are an expectable aspect of life, and are routinely provided for through social, managerial, and economic arrangements. It is doubtful if any large society has ever succumbed to a single-event catastrophe. The cause of understanding is not advanced by the suggestion that collapse is caused by accidents. 'Accidents,' notes R. M. Adams, “happen to all societies at all stages of their history ... “ (25). Too many societies encounter accidents without collapsing.

The advance weaken them. The eruption of Thera, for example, is often compared to the late-nineteenth-century eruption of Krakatoa in the South Pacific. To our knowledge, though, no complex society collapsed under Krakatoa's onslaught. Similarly, Brewbaker (26) cites the effect of the potato blight in Ireland to bolster his argument that maize mosaic virus could have caused the Mayan collapse. He fails, though, to point out to his readers that Ireland suffered no cessation of sociopolitical complexity as a result of this disaster.

Empirically, the eruption argument for the devastation of Crete falters on a dating problem. This eruption is currently dated toward the end of the Late Minoan period (*ca.* 1500 B.C.), whereas the widespread destruction on Crete occurred at the end of Late Minoan (*ca.* 1450 B.C.). The Cretans of *ca.* 1500 B.C. most likely stopped to watch the eruption of Thera, made whatever preparations were called for, and when it was all over went about their business. The argument that ash made east Crete barren seems odd compared with the effects of ash in northeastern Arizona, where the prehistoric eruption of Sunset Crater significantly improved local agriculture (27). analogies

to support that catastrophe their arguments theorists actually
EXTERNAL FACTORS

Decrease in trade and barbarian invasions have been cited as the two of the most important external factors for the demise of some early civilizations. In the Harappan context, the trade, especially the external trade, is mentioned quite often but the latter finds only an infrequent mention and this too in a negative tone - only to discredit the “Aryan Invasion” theory. The competition with other complex societies as a factor of collapse have also been mentioned in some cases but in the Harappan context such a scenario is unimaginable. It is well-known that there was no centrally organized state in the neighborhood of the Harappan Civilization with which it could have come into armed conflict. Archaeological record shows very few metal weapons in the Harappan remains and whatever are present, are very ineffective tools of war. Thus, while the armed struggle could have been a factor of civilizational decline in some societies, there is no sign of it in the Induds Valley. Opportunistic raids of barbarian pastoral nomads over a long period of time is, of course, a different matter.

Decrease in Trade: Ekholm (28) considers the loss of trade a case of resource depletion. He ascribes collapse of some civilizations to loss of trade networks, external resources, and imported goods. An economic system becomes fragile when it comes to depend on external exchange over which it has little control. Since civilizations are always dependent on access to foreign markets, they are intrinsically vulnerable in this regard. Ekholm accounts in this manner for the collapses of the Third Dynasty of Ur and of Mycenaean civilization, for regional instability in the Near East and the eastern Mediterranean *ca.* 2300-2200 B.C. Similarly, Robert Briffault in 1938 predicted the demise of the British Empire for reasons of unfavorable trade. Hodges and Whitehouse, in their critique of the Pirenne thesis (29), ascribe the post-Carolingian dark age to disruption of trade between Europe and the Near East, following the economic collapse of the Abbasids. Cipolla argues that the economic decline of Italy in recent centuries has resulted from unsuccessful competition in foreign trade (30).

Shereen Ratnagar makes a strong point in her *The End of the Great Harappan Tradition* as well as in *Encounters: The Westerly Trade of the Harappan Civilization* for the Harappan external trade as one of the important enabling factors in the collapse of the Indus Civilization. Harappan overseas trade involved supplying, to the agriculturally wealthy and densely populated Mesopotamia, crafted items such as decorated carnelian beads, gold, and lapis lazuli. We do not, for certain, know what Mesopotamian people sold to the Harappans in return. Practically nothing of the Mesopotamian origin has been found in the Indus Valley beyond one or two seals. Even here, their Mesopotamian origin is suspect.

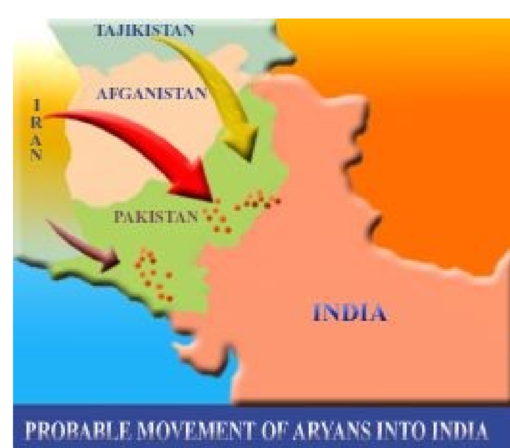
Some time around the end of the Third Dynasty of Ur, trade between Mesopotamia and Meluhha (the Indus Valley, it is assumed) dropped off, supposedly because the Sumerians turned to Egypt and Arabia for the majority of their imported goods. Harappan artifacts are found in southern Mesopotamia up until about 1800 BC. Thereafter, the presence of lapis lazuli, for example, “declined sharply to the point where it may be suspected that the primary source was recycled stock....” (31), indicating the decline of Mesopotamian trade coterminous with the decline of the Harappan Civilization.

Ghosh postulates that "the cessation of trade at about 1900 B.C. must have had an adverse effect on the prosperity of the Harappan Civilization and must therefore have been one of the factors leading to the decay of the cities, to the de-urbanization of the civilization and to the dispersal of the population" (32). Ghosh then states that due to the plethora of natural disasters which befell the Harappans, "the people were evidently so overwhelmed by their own troubles that they could no longer pursue the luxury of foreign trade" (32).

Was the external trade of such magnitude that its termination would cause the Harappan economy to collapse and undermine the position of the elite? First of all, it must be pointed out that in spite of all that has been researched and written about, the volume of trade between the Indus Valley and Mesopotamia was not that large.The Indus people could obtain all the raw material from within their own area and need not go far to obtain them. This included copper and tin, as well as wood and leather. They had their fiber (cotton and wool) for their textiles, oil seeds for oil, and all the agricultural produce what Mesopotamia or anyone else could offer. This was not a case of an economic dependency. Naturally, if the foreign trade was not a significant factor in the Harappan economy, its cessation could not trigger a civilizational collapse.

Secondly, if trade was in luxury items, and if luxuries are for only a tiny segment of any given society (hence their role as luxuries), then surely a society is not dependent on luxuries for its entire existence. Also, if we can now, finally, accept that the phenomenon of the Indus Valley Civilization was an essentially indigenous development (not spawned by traveling Mesopotamians, after all), why must we once again turn to the West for the reasons for its fall? Simply put, the Mesopotamians could not have a direct role in the rise or the fall of the Harappan Civilization.

Intruders: External factors are not limited to overseas trade. One of the most common expla



nation for collapse ascribes it to the effects of intruding populations, typically at a lower level of complexity than the society on which they impinge. Intruder explanations are also to be

found in the New World, more often in some areas than in others. The Indus Valley has been especially vulnerable to such intrusions from the West throughout its history and proto-history. One celebrated event in its history was the migration (erstwhile called the ‘invasion’) of the so-called *Aryans*. There must have been intrusions before; we know, there were a number of them thereafter.

Wheeler believed that the Harappan Civilization was destroyed by the Aryan invaders. It was pointed out that in the late phases of occupation at Mohenjo-daro there are evidences of a massacre. Human skeletons have been found lying on the streets. The RgVeda refers to the fortresses of the Dasas and Dasyus, which the Vedic god Indra is supposed to have destroyed. The geographical area of the habitation of the RgVedic people included eastern Afghanistan, the Pashtun country of Pakistan, northern Punjab and the Ghaggar-Hakra region. Since there are no remains of other cultural groups having forts in this area and in this historical phase, Wheeler believed that it was the Harappan cities that were being described in the RgVeda. In fact, the RgVeda mentions a place called *Hariyupiya*. This place was located on the bank of the River Ravi. The Aryans fought a battle here. The name of the place sounds very similar to that of Harappa. These evidences led Wheeler to conclude that it was the

Aryan invaders who destroyed the city of Harappa.

Attractive though this theory is, it is not acceptable to a host of scholars. They point out that the provisional date for the decline of the Harappan civilization is believed to be 1800 BC. The Aryans on the other hand are believed to have arrived here not earlier than around 1500 BC., probably more like 1200 BC. At the present state of knowledge it is difficult to revise either of the dates and so the Harappans and the Aryans are unlikely to have met each other. Also, neither Mohenjo-daro nor Harappa yield any other evidence of a military assault. The evidence of the human bodies lying exposed in the streets is important. This, however, could have been caused by raids by bandits from the surrounding hilly tracts. In any case, the big cities were already in a state of decay, long before the Aryans are thought to intrude the Indus Valley: "Civilization was already effete and on the wane when the raiders came ... " (34). It, however, does not mean that there were no other intrusions before the Aryans, or if the Aryans themselves did not give the Harappan Civilization a final push.

Intrusion of 'barbarians' is a common theme in the literary accounts of many societies as a cause of civilizational collapse. These events generally happen when the civilized state is already weak for other reasons. Such scenarios are common in Europe, the Near East, and China, where literary traditions often refer to barbarian migrations. Less complex societies are frequently implicated in the fall of various Mesopotamian polities, often in Mesopotamian literary accounts. The downfall of Sargon of Akkad for instance, is attributed to Gutian invaders from the eastern mountains, while the fall of Ur is ascribed to Amorites and Elamites. The collapse of the Hittite Empire, *ca.* 1200 B.C., is frequently seen as the action of migratory 'Sea Peoples,' who engulfed the Aegean and the eastern Mediterranean, and who were stopped only at the gates of Egypt. Some see the collapse as due to a combination of these invaders and the Hittites' traditional enemies, the barbarian Kaskas. Egyptian records speak of the Hittites as having fallen before such invaders.

The Sea Peoples, as they were known to the Egyptians, provide an instructive parallel to us. They appeared in western Asia and the eastern Mediterranean and moved relentlessly on to Mycenae with its massive stone fortifications; then on to the great Hittite capital with its hill citadel, Hattusha; on to Tarsus; on to copper- rich Cyprus (destroying Enkomi after a sea battle); on to the flourishing trading state of Ugarit with its four harbours and 1 ha palace (totally destroying the latter, smashing much fine craft work, and pillaging some valuables); on to several small centres in Palestine; and on, by sea, to Egypt, where they were crushed. Of diverse ethnic identities, and an amalgam of sea pirates, erstwhile nomads, and ex-mercenaries, they left these massive Bronze Age centres destroyed and often depopulated. They captured livestock and carried captives with them. Egypt was battered and Palestine divided up into several Philistine chiefdoms, vassals of Egypt. On the whole, after 1200 BC, large states were split into smaller entities and some regions saw a regression to the small hamlet and the household economy based on subsistence agriculture . Mycenae, Hattusha, Ugarit and Alalah never rose again. As for the Hittite empire, not only was Hattusha destroyed and abandoned, the entire cultural system perished. 1200 BC saw the end of the Hittite language and literature (and also ofUgaritic literature and its script). Likewise, it saw the end of the Mycenaean civilization. Long centuries of a 'Dark Age' followed in many parts of the Mediterranean. The 'large-scale downfall of a complete culture' is how this phenomenon has been described (36).

Various authors assign the Minoan collapse to invading Mycenaean Greeks, themselves only recently the recipients of Minoan Civilization. Usually, some factor is invoked - the eruption of Thera or a great earthquake *ca.* 1500 B.C. - that weakened Cretan power and opened the door to mainland

invasion. The destruction of Mycenaean Civilization by Dorian Greek invaders is the classic example of an intruder theory, and is endorsed by a variety of current scholars. The role of barbarians in the fall of the Roman Empire has been a subject of debate since the invasions themselves (35). It is a topic so well known that there is no need to discuss it in any depth here. The susceptibility of the northern frontier to barbarian incursions is a constant theme of Chinese history and the threat of barbaric invasions from the West has kept the rulers of Delhi on their toes in the medieval times. Hill raiders or even rural people descending in bad times to pillage a town, however, are just that. They do not leave trails of massive destruction such as those that the Sea Peoples visited, in a series of attacks between around 1220 and 1150 BC, on western Asia, heralding the literal end of the Bronze Age for an entire region.

Ibn Khaldun, a fourteenth century Muslim historiographer and historian, analyzing the growth and decline of the Islamic civilization, suggested repeated invasions from nomadic peoples limited development and led to social collapse of the established civilizations and states. Ibn Khaldun perceives history as a cycle in which rough, nomadic peoples, with high degrees of internal bonding and little material culture to lose, invade and take resources from sedentary and essentially urban civilizations. These urban civilizations have high levels of wealth and culture but are self-indulgent and lack both “martial spirit” and the concomitant social solidarity. This is because those qualities have become unnecessary for survival in an urban environment, and also because it is almost impossible for the large number of different groups that compose a multicultural city to attain the same level of solidarity as a tribe linked by blood, shared custom and survival experiences. Thus the nomads conquer the cities and go on to be seduced by the pleasures of civilization and in their turn lose their solidarity and come under attack by the next group of rough and vigorous outsiders—and the cycle begins again.

Ibn Khaldun’s reflections derive, of course, from his experiences in a radically unstable time. He had seen Arab civilization overrun in some parts of the world and seriously undermined in others: in North Africa by the Berbers, in Spain by the Franks and in the heartlands of the caliphate by Timur and his Turco-Mongol hordes. He was well aware that the Arab empire had been founded by Bedouin who were, in terms of material culture, much less sophisticated than the peoples of the lands they conquered, but whose *‘asabiyah* was far more powerful and who were inspired by the new faith of Islam. He was deeply saddened to watch what he saw as a cycle of conquest, decay and reconquest repeated at the expense of his own civilization.

Barbarian invasions have a clear attraction to collapse theorists, somewhat like catastrophe explanations. They provide a clean, simple resolution to a distressingly convoluted problem. As a *deus ex machina*, invasions are an old favorite in archaeological studies, where sudden episodes of cultural change may otherwise be difficult to explain. In some cases, fear of 'uncivilized' peoples has served to legitimize existing political arrangements, as well as taxation, military expenditures, and behavioral regimentation.

For Tainter (4), invasion explanations do not offer global coverage, being irrelevant in many cases. For him they are unsatisfactory in that a recurrent process - collapse - is explained by a random variable, by historical accident. “The overthrow of a dominant state by a weaker, tribally organized people is an event greatly in need of explanation.” (4). “Notwithstanding Service's 'Law of Evolutionary Potential,' complex societies are not dinosaurs, they do not fossilize, and they do not succumb to smaller states due to inertia” (4). But such examples are aplenty in history: some complex

societies were in fact dinosaurs, some of them did fossilize, and some of them did succumb to smaller states. Why should we reject a theory if it successfully explain some event but not all? The search for a universal theory is laudible but we should not invent one if it does not exist.

There are very few takers for the Aryan Invasion but incessant raids by peoples from the West cannot be denied. Such intrusions are by no means specific to the Indus Valley, it has been the fate of almost all early civilizations who have been periodically subjected to low level invasions, raids, and encroachments by less ‘civilized’ people living on the peripheries of the state. It is a universal phenomenon. Often enough, they are merely raiders, interested only in pillage and loot, rather than in land and settlement. Often enough, also, they are nomads. These raiders, therefore, leave no trails of massive destruction such as those that Sea Peoples visited in a series of attacks between 1220 and 1150 BC on West Asia, heralding the literal end of the Bronze Age for an entire region.

Such peoples have been designated in history as *Barbarians*. We will use the term here in a limited sense: a *barbarian* is simply a member of a political unit that is in direct contact with a state but that is not itself a state. Under this definition it is perfectly possible for a barbarian to be civilized in so far as he may be technologically sophisticated (like those modern Pashtuns who live on the afghan-Pakistan borders and are reputed to make automatic rifles in blacksmiths' shops), or appreciative of the great tradition of nearby states (like many of the neighbors of the Romans and Han Chinese). He is a barbarian not because he is uncultured but because he is on the outside looking in. The tribal people of the Pashtun country of Pakistan and Afghanistan and the inhabitants of Baluchistan and eastern Iranian deserts are perfect examples. True, most of the barbarians of history have been not only outsiders but poor and aggressive as well.Their aggressiveness toward states, however, follows not from their poverty but from the generally perceived advantages of predation as a way of getting rich and the pattern in which riches are distributed within states.Thus, most barbarians, as defined, can be expected to be raiders, just as civilized tradition holds them to be.The real question is whether they are anything more than that.

What factors might allow a group of barbarians to overcome a state? Does the civilized society not have an almost insuperable advantage as long as its strength remains unsapped by poverty and dissension? Is it conceivable that civilizations and states in their prime as well as their senescence might be overthrown, indicating unambiguously that barbarian attacks are a primary cause? asks Bronson in his incisive article, *Role of Barbrians in the Fall of States* (37). To answer, we must consider not only the nature of the state in question but that of the barbarians as well. Here we mainly follow Bronson.

For one thing, it is evident that there were marked differences in effectiveness among those stateless peoples who had the opportunity to become barbarians - that is, who were historically in contact with established civilizations and states. The substantial percentage of the earth's surface held by states since antiquity indicates that numerous peoples did not do well in the barbarian role; a good many politically uncentralized groups, such as those living in ancient Pakistan, must have succumbed to the blandishments or legionaries of civilization immediately, and many others can have held out for only a century or two. However, some evidently did better, and a few became real stars of barbarianhood: the Mongols of the thirteenth century, the Moros of the sixteenth to twentieth centuries, the Pashtuns and other Afghans during the whole of the past millennia. Such groups were consistently successful over the years both in attack and defense against a wide variety of state-organized enemies, such as the British, the Soviets, the US, the Pakistanis, and before that the Sikhs and the rulers of India. That

special skills were involved is clear. One can hardly doubt that being an effective barbarian took considerably more than a warlike disposition and a sincere desire to become rich.

Explanations of barbarian success when on the offense tend to focus on hardiness, mobility, and the militaristic attitudes bred by a nomadic way of life. These explanations are undoubtedly true in a limited way but do involve a certain circularity of reasoning. Of course the barbarians that win are hardy, mobile, and militaristic. So are the victorious armies of state-organized societies - those are simply the qualities of good troops everywhere (37). In most of the cases, the defensive successes of barbarians are often felt to be a simple matter of terrain. Many of the more notable barbarian strongholds - the Sulaiman Mountains, the Hindu Kush, the Zagros, Atlas, and the Alps - are daunting to even modern armies and must have seemed almost impregnable to their ancient counterparts. The experience of the British, the Soviets, the Americans, and the Pakistan Army on the western borders of Pakistan speak loudly in that context.

Several other factors, other than geography and psychology, may help to explain barbarian successes. First, they enjoy a distinct advantage in military funding. Assembling an army is cheap for barbarians and expensive for states. Although war can indeed be self-supporting for any militarily successful polity, the front-end expenditures of a war conducted by a true state are bound to be relatively high. A barbarian war chief, by contrast, has none of these concerns. The initial expenses for him are minimal and the cost of maintaining his army nonexistent. If he is poor enough to start with, the profits from even a minor victory may be attractive enough to justify considerable risks. The cattle raids on the Late Harappans by the nomadic tribes from the West is a case in point.

Second, non-states have certain built-in organizational advantages when in the defensive role. A number of observers have pointed to the military effectiveness of the unilineal "segmentary" kinship systems of Pakistan’s western frontiers, which provide an automatic concentration of troops to match the size of attacking forces but have no vulnerable government center and no need for more than a rudimentary command structure. Successful defense may require little more than a warlike population and a degree of xenophobia. Coordination among the defenders does not seem necessary or even desirable: most theorists of guerrilla and counterinsurgency warfare agree that self-sufficiency and capability for independent action on the part of small units are the hallmarks of success in defensive wars against numerically superior enemies.

One also should not undervalue a further advantage of societies without generals and kings: if there is no authoritative leadership, there is no one who can offer an authoritative surrender. It has been suggested, for instance, that this is the main reason for the comparative success of the British in pacifying Baluchistan as opposed to the North on the Pakistan-Afghan frontier. The Baluchi may have been no less resolute and skilled in war than the Pashtuns and the Hazaras, but they had leaders who could in some degree persuade their followers to abide by the agreements they had made.

On the other hand, the military advantages of acephalous organization are rather less evident when it comes to sustaining an offensive. Centralized organizations, all else being equal, can be presumed to have greater staying power: superior discipline, larger reserves of materiel, and greater ability to withstand tactical defeats in the name of strategic victory. Although barbarians could be expected to do well against states in raids or short wars within the territories of those states, the theoretical advantage might shift as campaigns drag on and the invaders begin quarreling or considering the advantages of taking their loot and going home.

Another institutional variable worth considering is that of the quasi-religious elite and military associations - the Dog Soldiers of the Plains Indians, the Joms vikings of the Scandinavians, the *ribat* of North Africa, the Talibans in Afghanistan and its borders with Pakistan, and similar warlike cults of the Middle East - which are known to have served as the cadres or shock troops of nonstate armies. Cultist shock troops are prominent in the histories of some barbarian areas, as shown by the experiences of the American and British armies with Muslim "fanatics" in the southern Philippines and the Talibans and Al-Quaida on the North West Frontier of Pakistan.

In recent history of the Greater Indus Valley, it has been a common phenomenon that the warring tribes, in the event of a foreign enemy, asked a religious leader or a holy man to assume the leadership and confront the common enemy - be they the British, the Soviets, the American, or the Pakistan army. History of Swat and Waziristan is replete with such examples. Thus, religion has been a potent force in moving the barbarians into action, it is possible that on the borders of Bronze Age civilizations it played the same role.

One should not assume, incidentally, that non-state armies are necessarily outnumbered by the armies of states. It may come as a surprise to learn that these archetypal individualists have not historically been averse to mass mobilization and large-unit military tactics. During the nineteenth century, virtually every tribe on the North West Frontier of Pakistan assembled at least one *lashkar* or raiding party of between five thousand and ten thousand men; some, like the indefatigable Afridi, did it several times. And there is no sign that raids of this size were anything out of the ordinary in the context of the long-term history of this region. The same history was repeated during the Soviet occupation, and later the American occupation of Afghanistan. Through social mechanisms that are not quite clear a number of the frontier tribes routinely fielded raiding parties that were equal in size to a Roman legion. When, as occasionally happened, several tribes formed an alliance, their combined forces were not inferior to the full armies of most known premodern states.

This is an exceptional case, to be sure. Yet it serves to give emphasis to the general point toward which the present arguments have been building: that barbarian military capabilities may in some circumstances be as formidable as to explain the fall of states without reference to those states' internal conditions. According to Bronson (37), the conventional wisdom is erroneous: the theoretical advantage of centralized over noncentralized polities is neither invariable nor insuperable. Given the right barbarians in sufficient numbers, it is plausible that even the best-organized and leastsenescent of states could be overthrown and incessant raids on its borderlands could sap the lifeblood of a civilization.

Keeping the theoretical considerations aside, altogether there are four possible causal roles that outsiders can play (37).

(I) They may be only vultures, scavengers that wait until their victim is thoroughly dead before starting to feed. In this case, their association with the death of civilized societies does not have causal meaning.

(II) They may be jackals, predatorscavengers that finish off the already weak or sick. Because the victim might have recovered if left alone, the causal status of outsiders of this kind is real but still secondary.

(III)They may be wolves predators that not only prey on weakness but that harry healthy

We do not throw out the political significance of these skeletons (at Mohenjo daro) just because the Aryan connexion is dubious. The fact that they do not amount to a massacre does not rule out conflict, strife, or raids on the city in the last days of its occupation *Shereen Ratnagar*

victims until they become weak and get exhausted. Such wolfish outsiders must be counted as primary but not exclusive causes of political death.

(IV) The outsiders may be tigers, capable of bringing down the healthiest and strongest of prey without preliminary harrying. Where these exist, they are capable of causing the fall of a state without the assistance of other external or internal factors.

Barbarians are capable of filling any of these outside roles. The first, or vulture, role is not of interest from the standpoint of explaining sociopolitical disintegration of a civilization. The fourth, or tiger role, represented by the Mongols of Genghis Khan's period, is important but essentially uncomplicated in terms of the political processes involved in the demise of the Harappan Civilization. Although some early scholars put the Aryans in this role viz-a-viz the Harappan Civilization, at this time no one wants to buy this argument. The second and third roles are more complex, however, and require further discussion. We shall come to them a little later.

Barbarians do appear to overthrow civilizations and states, and oftentimes have acted as wolfs to weaken prosperous societies by exhaustion. More often, however, in reality they are anything more than jackals - opportunistic minor predators feeding on victims that are already moribund. Large numbers of barbarians are much more likely to be

conspicuously present at the time of death than either natural catastrophes or demonstrably unusual levels of inefficiency, corruption, and social conflicts. In fact, it is not easy to find a documented instance of a state that is destroyed politically, so that its former territory reverts at least temporarily to non-state organizational modes, in which the immediate agents of destruction are not barbarians. The empirical frequency of barbarians' association with the fall of civilizations and state, therefore, leads one to conclude that their role is not entirely negligible (37).

In context with the Indus Civilization and its demise, one should be able to show that (i) the attackers were really barbarians, that (ii) the attacked state had not been fatally weakened beforehand, and that (iii) the result was true social and political destruction, not just a change in government. Observers have long been puzzled by the paradox of an area that contains one of the world's great civilized tradition but whose political history is unusually short. After a moderately early but abortive start in the Indus Valley (the Indus Civilization) the material trappings of centralized polities came late to the region - it is not always realized that the first archaeologically recognizable, large post-Indus urban settlements are not earlier than the fifth century BC., or that the first substantial concentration of monuments and inscriptions (e.g., Taxila) is not much earlier than the time of Christ. Moreover, when solidly visible states do appear in sudden profusion in the late first millennium B.C., they lead curiously checkered careers. During the succeeding eighteen centuries, the entire Indus Valley produced no region-spanning state. Even the smaller states that emerged off-and-on lasted no longer than two or three centuries; the anarchical interregna were everywhere prolonged and severe. Yet the region was highly civilized. It was creative, populous, and rich. It had been that way for three millennia. It should have produced large, durable empires to rival those of China, the Middle East, the Mediterranean, and Peru. But it did not, and the question is, why?

Bronson (37) argues that aside from possible idiosyncrasies of regional psychology, one of the few obvious differences between all Indus states and most states elsewhere is the fact that all were within raiding range of unusually effective barbarians. But in few other parts of the world have barbarian raids been as unremitting and as spectacularly successful. From the days of Alexander the Great down to the mid-eighteenthcentury blitzkrieg of Nadir Shah, attacks by outsiders, sometimes organized as states themselves but invariably making heavy use of tribal soldiers, are a normal state of affairs. With the exception of an apparent intermission between A.D.750 and1000, not a century passes without a great raid that goes at least as far as the Ganges and probably not a decade when barbarians do not repeatedly cross the Indus. And it is noteworthy that the armies and often the leaders of these outside attackers are usually from one area, the North West Frontier. The peoples of the adjoining areas, across the Indus, such as those of the hilly areas of Pothwar, sometimes resisted the invaders but more often joined them in raiding the richer areas further East.

This extraordinary situation is without parallel in the history of other regions: it is as if the fall of the western Roman empire had been prolonged indefinitely, with an endless supply of Attilas, Theodorics, and Stilichos, but with very few Charlemagne and not even the possibility of a Belisarius or Justinian (37). This analogy may be overstretched. But the Indus data do at least indicate that we must be cautious about accepting the European-Middle Eastern-Chinese pattern of short dark ages and long imperial periods as normal. Cultural and political success do not always go together. In ancient Pakistan, for all its cultural enlightenment, the barbarian-dominated dark ages are the political norm and the stable states the rare exceptions.

The implications for the present argument seem clear. Although historical documents pertaining to the Indus Valley are not detailed enough for one to prove that barbarians in any single case were solely responsible for the fall of a local state, the larger picture is such that one cannot doubt that barbarians were decisive causes of numerous events of this kind. Over many millennia many stable communities in Pakistan must have fallen for reasons that has nothing to do with internal problems. As with kingdoms lying in the path of the Mongols, a contented citizenry and competent government was no guarantee of survival for a smallish state in the Indus Valley faced with yet another incursion from the West. Diplomacy must often have been the only skill that counted on such occasions; other functions of organized society were entirely irrelevant.

None of the foregoing should be taken as a claim that most falls of civilizations and states are caused primarily by barbarians. They are in second place even among the external causes. Essentially internal factors must often have been decisively important: as suggested earlier, the normal instabilities of any social organization seem capable of sometimes become amplified to such a degree that they tear the system apart. The hostile outsiders who are almost certainly present during any sociopolitical dissolution could in the case of an internally caused decline be no more than spectators or minor participants. On the other hand, they could be the main cause or the symptoms of decline and destruction.

Coming back to the analogy of jackals and wolfs in the Indus context, a central problem is that of telling them apart, since barbarians of both classes can be expected to have made decades or centuries of probing attacks before the coup de grace is finally administered. The wolf scenario is a familiar one: constant probing, constant harrying, opportunistic biting and decapitating, and finally feeding on the physically exhausted victim. Unfortunately, a jackal scenario could look quite similar: the only difference is that the activities of the jackals are not a determining cause of later events. The victim is

already weakened or sick; the jackal only robs it the opportunity to recover.

Now, where the Harappan Civilization fit in this scenario? Since there is no written records, our only source of information comes from the extrapolations of the Aryans' raids as depicted in the RgVeda, an event that postdates the collapse of the Indus Civilization. The picture that emerges is a mixture of wolf and jackal strategies: sometime destroying the agricultural base of the Indus agriculture by destroying their water dams, sometimes burning their settlements with the help of their god *Agni* (the fire), sometimes simply stealing their cows, and sometimes just extorting them with the threat of violence; the disorganized and weak Indus people, in turn, sometimes giving the raiders some ineffective resistance, sometimes hiding away their wealth, i.e. the cattle, sometimes running away for their life, sometimes agreeing to pay ransom to the invaders' chief, sometimes bribing the Aryan's bards and messengers, and occasionally agreeing to be their servants. A similar drama must have been played during the earlier raids by different sets of barbarians in the final stages of the Harappan Civilization. It is possible that wolf tribes softened the enemy; when they had their full, the jackal could have come in to finish the job.

Who were these intruders? The hunch is that they were primarily the hill peoples from the west of the Indus River and the victims were primarily the peoples of the Indus plains. As stated earlier, in historic times, there were numerous such raids, some initiated at long distances in Central Asia, some originating close-by in Afghanistan. Sometimes they stopped at the River, sometimes they crossed it and reached as far as the Sutlej and Beas. Once in a while they even reached the Ganga-Jamuna plains. Invariably, some of these intruders settled in the Indus Valley and eventually became an integral part of the settled population of Pakistan. In other instances, the people of the outlying regions of the rich, settled areas of the plains became the hanger-ons to the invaders and participated in the pillage and loot. Again, the hunch is that earlier, prehistoric 'invasions' and raids were also of this nature. The objective of the later raids was pillage, rounding off the cattle, and looting the agricultural products; this would have been the objective of the raids at the tail end of the Indus Civilization also.

The continuous but punctuated stream of intrusions into the Indus Valley from the West is not in dispute. The question is whether these intrusions were peaceful migrations or outright invasions. Looking at historic examples, it would be unrealistic to conclude that barbarian conquests were painless as a general rule. The arable land with irrigation water was limited and pastures were confined only to certain areas. The existing users would not have given up these resources without resistance, the incoming barbarian groups must have fought to snatch them. The mere fact that these outsiders were admirers of a civilization does not make them preservers of the polities that supported that civilization, nor did extensive prior contact with a state mean that they had the vaguest notion of how it ran. As shown by the behavior of the Mongols in their early campaigns, barbarians may be quite uninterested in previous institutions or in preserving the previous culture and population. And, as shown by Theodoric's Ostrogoths and the various other invaders of Rome, a lack of administrative talent and/or will is to be expected in even the most ardently admiring of barbarian conquerors. This by itself is enough to explain the close empirical association between conquests by barbarians and the falls of civilization and states (37).

Archaeological evidence for barbarians' intrusion during the final stages of the Harappan Civilization is hard to come by; nomadic pastoralists and passing-by invaders do not leave behind much evidence. However, archaeologists have indicated a few stray objects that seem alien in style: copper shaft-hole axe-adze of Iranian or Central Asian design and several daggers with midribs and

holes where they had been riveted to metal handles, at Mohenjo-daro; similar objects from Chanhu-daro and Jhukar, including shaft hole axes, copper pins with decorated heads, and round or occasionally square compartmented stamp seals bearing geometric designs; a buffware pottery that is different from the Harappan style; and objects of Iranian and Central Asian affinity at Pirak and Sibri, can be cited as examples in the Lower Sidh. At Harappa is detected the arrival of new peoples, the Cemetery H being one evidence. Additionally, Gomal Grave culture in the Gomal Valley and Pothwar, as well as the Gandhara Grave culture in Swat Valley is taken as alien cultures in the Indus Valley. The exact chronology has not been worked out but it is believed that these intrusions could have stemmed from the time period of the Harappan devolution or just after the final stages of the Civilization, ranging from 1700-2000 BC.

Ratnagar (38) has attempted to consolidate the available archaeological information on the emergence of new cultural elements on the western peripheries of the Indus Valley. She says: “The bronze cosmetic flagon known at Hissar, Altyn-depe and in Bactria, also occurs at Chanhudaro as a beautifully fluted piece, in a probable Jhukar context. Round bronze mirrors with tangs for fitting into wooden handles, as at Hissar, Altyndepe, Gonur I, Sapalli, Dashly, Shahdad and Khinaman and Mehi - some of them with a handle shaped as a human body - also occur at Harappa, Mohenjodaro, and Kulli sites.Twelve such mirrors occurred in graves at Harappa and one in a Kalibangan grave. Rissman has remarked that in Harappan graves it was mirrors rather than any other bronze item that tended to be deposited and that only one such mirror occurs in a Harappan hoarded treasure.

“ The beautifully cast socketed adze-axe of Gonur I has counterparts at Hissar, Shahdad, Khinaman and Mohenjodaro. Harappa and Chanhudaro each have a single bladed socketed axe. Exquisite bronze animal-headed pins or "wands" at Dashly and Hissar have a counterpart in the latest stratum of Harappa in an "antimony stopper rod" (*surmadani*) surmounted by the figure of a dog biting the ear of a goat; and at Mohenjodaro where a rod is surmounted by an antelope. There are also compartmented seals whose faces bear raised geometric designs, from Mohenjodaro and the white steatite stepped seal with a stylized eagle from Harappa has Bactrian connections.” (38).

“The purpose here is not to elaborate on a list of similarities between the regions, for such an exercise often tends to neglect context and cooccurrence and simplistic conclusions are drawn about "trade" or "migrations". The point is, instead, to highlight the relevance of the happenings in this region to the Harappan centers and suggest that there may be some inter-connexion between the series of Harappan settlement desertions and colonizations and events in the western region” (38).

The Kachi plain, on the frontier between the Indus Valley and Baluchistan, was also affected by group movements. Western contacts reappear at Nausharo after the Harappan period. The famous Neolithic site of Mehrgarh has a south Cemetery with ordinary graves: "cenotaphs" devoid of human remains but with offerings and grave goods interred in pits. At this cemetery grave goods of international currency include steatite kidney-shaped containers (as in Bactria), a stone sceptre as in sites of the BMAC and eastern Iran, a bronze cosmetic flagon, mirror and pins with double volutes or bird-shaped heads.

Also in the Kachi, near Nausharo, was a small (1 ha) and short-lived settlement, Sibri. This could have been the settlement of a small group of migrants who came down the Bolan Pass from Central Asia. Among the finds occur a polished stone column, two flat, violin-shaped figurines, compartmented seals, a bronze ornamental pin and a bronze shaft-hole axe-adze. There is also

evidence of copper/bronze industry at the site, which is comparatively rich in metal. Critically important is the fact That Sibri offers not only Central Asian elements but also Harappan ceramic traits and Indus characters on an amulet, so that the chronological coincidence between the later phase of the Harappan civilization and the momentous happenings to its west are established.

At Pirak, 11 km south of Sibi on a tributary of the Bolan, a 9-ha settlement was founded around 1700 BC. The material culture - house forms, hearths, pottery, bone and stone tools and grain storage methods-presents a contrast to the Harappan material culture. Moreover, at Pirak the horse and the two-humped Bactrian camel (probably domesticated, centuries earlier in Turkmenia) are represented by their bones. Among artifacts there are Murghab type stone seals. (38).

Where movements of groups from eastern Iran-Central Asia are concerned, northernmost Pakistan also becomes relevant. From about 1700 BC, cemeteries and villages in Swat (period IV) had a material culture which seems to have been a curious amalgam of elements from Pakistan (painted pottery), northeast Iran (grey burnished pottery, violin-shaped figurines, the horse) and China (jade pendants, stone harvesters and ornate bone pins; Swat, too, would be receiving steppe elements from. Not only were there movements of groups of people, social transformation was also involved.

Although this evidence is often offered as an indication of the population intrusions from the West, it is not clear if the finds of Iranian and Central Asian objects and the ways of the burial of the dead really stem from the population movement into the Indus Valley or it was the result of normal cultural interaction of the peoples of the Indus Valley with the residents of the world around them. It is also not clear if these migrations were ‘peaceful’, filling in the areas that were vacated by the Harappans, or they were the result of barbarian’s raids. The better possibility is that they were the results of pre-Vedic raids.

Theevidenceofraids/skirmishesat Mohenjo-daro or at Harappa is actually not comparable to this, and the hill raids/ incursions/ squatters may be viewed as a symptom of Harappan decline rather than its cause. In fact, even the Sea Peoples' devastations are regarded by Sandars (39)) and Liverani (40) as only a precipitating factor that hastened the end of the 'over- specialized' and over-centralized Mycenaean economy, the Hittite empire plagued by border rebellions and rebellious vassals, an Egypt under economic and political strain, and a Syrian economy that was so concentrated in the palace that the physical collapse of the latter meant the end of the organization of the kingdom, brigandage in the countryside, and other signs of chaos.

We expect long-standing Great Traditions to endure military crises, as did Egypt and various Mesopotamian states at several junctures. For example, the Hyksos ('hill chiefs') who occupied lower Egypt in the Second Intermediate Period (1786-1550 BC) after the end of the Middle Kingdom, had come from Palestine with horse- and chariot-warfare, and are frequently cursed in the execration texts and portrayed as irreligious in later literature. But they emulated the Egyptian aristocracy, learned the Egyptian mode of writing, and adopted the cult of Re the Sun God. Their incursions did not bring about the end of the Egyptian civilization, even if they brought a particular dynasty and state to its end. So, too, the Gutians of the Zagros, who attacked the empire of Akkad in swift pillaging raids, are described as inhuman and nasty people but they adapted to the Mesopotamian culture and very little in the material culture, art, or literature after 2230 BC can be discerned as 'Gutian'.

ECONOMIC FACTORS

Economic factors are intertwined with almost all proposed reasons for societal collapse but its clear annunciation comes from Joseph Tainter in his *The Collapse of Complex Societies* first published in 1988. He develops a farreaching theory that accounts for collapse among diverse kinds of societies, especially states. Tainter's thesis is based on the principle of diminishing return. The return on investment in complexity varies and this variation follows a characteristic curve. It is proposed that in many crucial spheres, continued investment in sociopolitical complexity reaches a point where the benefits for such investment begins to decline, at first gradually, then with accelerated speed. With declining marginal returns marginal costs rise. Thus, complexity as a strategy becomes increasingly costly and ultimately causes it to unravel without control. Collapse is this sudden loss of social complexity, stratification, internal and external communication and exchange, and productivity.
Tainter introduces four concepts that can lead to an understanding of why complex societies collapse. These concepts are:

1.human societies are problem-solving organizations;

2.sociopolitical systems require energy (cost) for their maintenance;
3.increased complexity carries with it increased costs per capita; and
4.investment in sociopolitical complexity as a problem-solving response often reaches a point of declining marginal returns.

With these facts in mind, collapse can simply be understood as a loss of the energy needed to maintain social complexity.
Sociopolitical organizations constantly encounter problems that require increased investment merely to preserve the status quo. This investment comes in such forms as increasing size of bureaucracies, increasing specialization of bureaucracies, cumulative organizational solutions, increasing costs of legitimizing activities, and increasing costs of internal control and external defense. All of these must be borne by levying greater costs on the support population, often to no increased advantage. As the number and costliness of organizational investments increases, the proportion of a society's budget available for investment in future economic growth must decline.
Thus, while initial investment by a society in growing complexity may be a rational solution to perceived needs, that happy state of affairs cannot last. As the least costly extractive, economic, and organizational solutions are progressively exhausted, any further need for increased complexity must be met by more costly responses. As the cost of organizational solutions grows, the point is reached at which continued investment in complexity does not give a proportionate yield, and the marginal return begins to decline. The added benefits per unit of investment start to drop. Ever greater increments of investment yield ever smaller increments of return.
A society that has reached this point cannot simply rest on its accomplishments, that is, attempt to maintain its marginal return at the status quo, without further deterioration. Complexity is a problem-solving strategy. As stresses necessarily arise, new organizational and economic solutions must be developed, typically at increasing cost and declining marginal return. The marginal return on investment in complexity accordingly deteriorates, at first gradually, then with accelerated force. At this point, a complex society reaches the phase where it becomes increasingly vulnerable to collapse.
Two general factors can make such a society liable to collapse. First, as the marginal return on investment in complexity declines, a society invests ever more heavily in a strategy that yields proportionately less. Excess productive capacity and accumulated surpluses may be allocated to current operating needs. When major stress surges (flood, drought, encroachments by nomads on the peripheries of the civilization) arise there is little or no reserve with which they may be countered. Stress surges must be dealt without of the current operating budget. This often proves ineffectual. Where it does not, the society may be economically weakened and made more vulnerable to the next

crisis.
Once a complex society enters the stage of declining marginal returns, collapse becomes a mathematical likelihood, requiring little more than sufficient passage of time to make probable an insurmountable calamity. So if Rome had not been toppled by Germanic tribes, it would have been later by Arabs or Mongols or Turks. A calamity that proves disastrous to an older, established society might have been survivable when the marginal return on investment in complexity was growing. Rome, again an excellent example, was thus able to withstand major military disasters during the Hannibalic war (late third century B.C.), but was grievously weakened by losses that were comparatively less (in regard to the size and wealth of the Roman state at these respective times) at the Battle of Hadrianople in 378 A.D. Similarly, the disastrous barbarian invasions of the first decade of the fifth century were actually smaller than those defeated by Claudius and Probus in the late third century.
Secondly, declining marginal returns make complexity an overall less attractive strategy, so that parts of a society perceive increasing advantage to a policy of separation or disintegration. When the marginal cost of investment in complexity becomes noticeably too high, various segments increase passive or active resistance, or overtly attempt to break away. The insurrections of the Bagaudae in late Roman Gaul are a case in point. In extreme cases, the populace can even migrate to other areas, as it probably happened in the declining period of the Harappan Civilization. At some point along the declining portion of a marginal return curve, a society reaches a state where the benefits available for a level of investment are no higher than those available for some lower level. Complexity at such a point is decidedly disadvantageous, and the society is in serious danger of collapse from decomposition or external threat.
The theory of Marginal Returns has been applied to explain three best-known instances of collapse: the Western Roman Empire, the Southern Lowland Maya, and the Chicanos, and has yielded positive results. Although this theory is meant as a “universal” theory for explaining state and civilizational collapse, in practical terms it is more applicable to the collapse of centrally organized states than civilizations in general. It would be an act of faith to apply these concepts to explain the collapse of a non-state civilization, as the Harappan Civilization probably was.

DEPLETION OF VITAL RESOURCES

Two major explanations for the depletion of vital resources are subsumed under this theme: a gradual degradation of environment due to human mismanagement, or a more rapid loss of resources due to permanent climatic shift. Both are thought to cause collapse through depletion of the resources on which a complex society depends.

Causes
- Overgrazing
- Deforestation
- Overpopulation

Effects
- Soil Erosion
- Loss of Soil Nutrients
- Endangered Human and Animal Life

Ecological Degradation (wearing off the Landscape and Deforestation): According to some opinions, such as that of

Fairservis (41), the delicate ecological balance of the Indus Valley was being disturbed because the human and cattle population in these areas was fast depleting the scanty forests, food and fuel resources. The combined needs of the Harappan townsmen, peasants and pastoralists exceeded the limited production capacities of these areas. Thus, a growing population of men and animals confronted by scanty resources wore out the landscape.

With the forests and grass cover gradually disappearing, there were more floods and droughts. This depletion of the subsistence base caused strain on the entire economy of the civilization. That is why the Harappan communities started moving towards the eastern areas, away from the core area of the Indus Civilization. This process of decline was completed by the raids and attacks of the barbarians of the West on the surrounding communities.

The arguments of ecological degradation caused by humans as a primary cause of collapse in many early societies are quite prevalent. They have gained particular strength after the publication of Jared Diamods's extremely popular book *Collapse: How Societies Choose to Fail or Succeed*. Diamond suggested five major reasons for the collapse of 41 studied cultures: environmental damage, such as deforestation and soil erosion; climate change; dependence upon long-distance trade for needed resources; increasing levels of internal and external violence, such as war or invasion; and societal responses to internal and environmental problems. Among them the ecological degradation caused by man makes at the top of the list. In the same vein, Jeffrey A. McNeely, in his writings has suggested that past civilizations have tended to over-exploit their forests, and that such abuse of important resources has been a significant factor in the decline of ancient societies.

The issue is an important one and attracted this comment by Mortimer Wheeler: "Impoverishment of the surrounding farmlands by overcultivation, by the destruction or neglect of irrigation-channels, by overgrazing, has been postulated. The untiring consumption of major vegetation implied by the firing, age after age, of millions of bricks may, even with the aid of hill- timbers, have helped to bare the land and may possibly, to some small extent, have reduced the transpiration of moisture . . . Mohenjo-daro was steadily wearing out its landscape" (42) .

Similarly, Vishnu-Mittre raised the question of the overuse and mismanagement of natural resources

(43). An expansive analysis of a possible disequilibrium between urban demand and the carrying capacity of land has, however, only been offered by Walter A. Fairservis Jr. (90). Basing his views upon modern census data on Sind, Fairservis highlighted several factors: the possibility of a reduction in the food surplus leading to a population movement away from the Indus Valley; the effect of an enormous fodder requirement on the surrounding grasslands and forests; and the drain on the latter by humans producing vast quantities of fired bricks. He regarded these as being crucial in creating a precarious economic situation which, in turn, contributed to the collapse of the Harappan civilization. A careful reading of this paper will reveal, though, that the arguments are more conjectural than archaeological.

The arguments and the evidence offered by Jared Diamond and Jeffrey McNeely are hard to counter but their application to flood-irrigated soils such as that of the Indus plains and southern Mesopotamia is somewhat problematic. The enduring fertility of soils of the Indus Valley over the subsequent millennia disproves the hypothesis of soil exhaustion in the Indus Valley. Also, the computation of the needs of the Harappan population is based on scanty information and a lot more information would be needed to make a realistic evaluation of the subsistence needs of the Harappans.

In view of these objections, George Dales aptly noted that "wearing out a landscape is basically impossible to prove. And no alluvial plain wears out, anyway". Also: "if environmental factors created by man had been decisive in the downfall of civilizations, Mesopotamia would have been deserted long ago". In other words, the Harappans themselves could not have been able to change their environmental setting to such an extent as to have any bearing on their ability to sustain themselves.



Climate Change: Climate change has always been the most favored cause of the collapse of early civilizations although as a general theory the change in environmental ecology has been often couched in a combination of social, political, and economic factors. That perspective is now being fine-tuned with the accumulation of high-resolution paleoclimatic data that provide an independent measure of the timing, amplitude, and duration of past climate events. Some of these climatic events were abrupt, involved new conditions that were unfamiliar to the inhabitants of the time, and persisted for decades to centuries. They were therefore highly disruptive, leading to societal collapse - an adaptive response to otherwise insurmountable stresses (44).

A link between climate and resource depletion is well-established and this relationship has been intuitively evoked for several civilizations, including the Indus Civilization, but no precise pattern can be identified. For example, while Issar (77) claims for the Levant a fall of annual precipitation between 2400 and 2000 BC, Weiss et al. (64) find 2200 to 1900 BC the driest years in northern Mesopotamia and Syria although these scholars do not explain adequately the micromorphological and other data on which their argument is based. Butzer (51), meanwhile, finds evidence in Egypt for desiccation and exceptionally low Nile floods, not only between 2250 and 1950 BC, but also between 3000 and 2800, in those very centuries when the Egyptian civilization was developing!

High-resolution archaeological records from the New World point to abrupt climatic change as the proximal cause of repeated social collapse. In northern coastal Peru, the Moche civilization suffered a 30-year drought in the late 6th century A.D., accompanied by severe flooding. The capital city was destroyed, fields and irrigation systems were swept away, and widespread famines ensued. The capital city was subsequently moved northward, and new adaptive agricultural and architectural technologies were implemented. Four hundred years later, the agricultural base of the Tiwanaku civilization of the central Andes collapsed as a result of a prolonged drought documented in ice and in lake sediment cores. The lake sediment cores show that the Classic Maya collapse of the 9th century A.D. coincided with the most severe and prolonged drought of that millennium. In North America, Anasazi agriculture could not sustain three decades of exceptional drought that resulted in regional abandonments.

The interest in the linkage between climate and rise and fall of civilization owes much to the work of Ellsworth Huntington (47,48) and to more recent theorists such as Winkless and Browning (49), J.Hughes (50), and Butzer (51,52,53). Huntington argued that many of the great nations of the past rose and fell with favorable and unfavorable climatic conditions. “During times of favorable climate in countries such as Egypt and Greece the people were apparently filled with a virile energy, which they do not now possess” (47). With aridity in Greece there came economic distress, famine, and lawlessness. To Huntington, high frequencies of cyclonic storms 'energized' populations to create civilizations, and when a climate became unfit, no people could retain the energy and 'progressiveness' that he believed was necessary for civilization (47). The fall of Rome was explained by adverse climatic conditions after the early third century A.D. (48).

Winkless and Browning (49) provide an updated climatic theory; to them, changing physical factors (e.g., increased volcanism) lead to changing climates, which lead to changing food supplies, and thus to changing human behavior (wars, migrations, economic upheavals, changing ethics, etc.) (49). Whereas Huntington (47,48) saw civilizations flourishing in stimulating climates, Winkless and Browning ascribe civilization to benign climatic conditions, and collapse conversely. They suggest that when climate changes, marginal areas are affected first. Buffer states begin to abandon the characteristics of civilization, return to nomadism and raiding, and ultimately topple the weakened centers of power. These authors further postulate an 800 year climatically-induced cycle to human affairs, superimposed on shorter cyclic patterns (49).

Studies of regional late Holocene vegetation history have shown that the most drastic changes in the vegetation pattern and cover, an important indicator of climate change, appeared around 2000 BC in different parts of the world. In northeastern China in the Changbai Mountain region, the most noticeable event of the Late Holocene forest development around 2000 BC was expansion of *Pinus koraientsis* (57)). Vegetation reconstruction at Kurugai site (northern Sichuan, China) in the eastern

part of QinghaiTibetan Plateau revealed retreat of forest and spread of open areas at about 2000 BC (58). Around the same time in warm temperate forest zone located at lower elevation in the southern Sichuan, sclerophyllous expanded, suggesting Asian Monsoon activity with decrease in spring and summer precipitation. The results of pollen analysis from the Ghab valley and El-Rouj basin in Syria show that the climate became dry after around 2000 BC. This dry climate caused a drought adapted taxa

weakening of the East drought and reduced the production of olives, wheat, and barley. People in northwest Syria abandoned their habitation sites completely in the Late Bronze Age because of drought.

Environmental factors have also been frequently suggested to play a decisive role in the decline and fall of the Harappan Civilization (45,46); among these, regional aridification (a decrease in rainfall) and hydrological changes such as the drying of the Ghaggar-Hakra system (14,16) have been the most prominent. Hypotheses have been offered which link the "wetter' climate to the rise of the Harappan Civilization and the "dryer" climate to its demise. It has been hypothesized that there was an increase in the arid conditions in the Indus Valley around 2000 BC. In semiarid regions like the greater Indus Valley, even a minor reduction in moisture and water availability could spell disaster. It affected agricultural production which in turn put the city economies under stress. This is by far the most appealing explanation for the decline of the Harappan Civilization and for its eventual demise. In this connection, the Gurdip Singh's studies on pollen identifications from twenty-two dated lake sediments in Rajasthan (63) are often quoted. These pollen studies concluded that there was substantially higher rainfall - monsoon as well as winter rainfall - between 3000 and 1800 BC. From the same data, it was inferred, that after 2000 BC there followed a period of marked aridity.

The results of Gurdip Singh are confusing, to say the least, and they have been variously challenged on technical grounds. The fault probably lies in the interrelation between the rainfall and the agricultural production - more rain, more production and more settlements; less rain, less prosperity, less population - rather than on the reliability of data. The fact is that for the arid Indus region, river floods have always been far more important and reliable for agriculture than rainfall, as during the Harappan era (67,68) inundation agriculture during the Rabi season (winter crops) was dominant along the Indus and its tributaries (69). Even if an increased acidification due to a decrease in the monsoons is admitted to, the problems still remains how did it affect the agricultural production of the region. We know that the Indus agriculture did *not* depend on the monsoons; wheat and barley are winter crops and the monsoons are relevant largely to the summer crops.

During the same period, other climate studies were being undertaken and they substantially yielded more-or-less similar data (45,70). For example, hydroclimate reconstructions for South and Central Asia showed that precipitation from both monsoon and westerly sources that feed rivers of the Indus Plain (68) decreased since approximately 2,500-3,000 BC, and was at its lowest after approximately 2,000 years BC. However, the interpretations were different. It was hypothesized that the increasing aridity, recorded at the start of the aridification process around 2500-3000 BC, had affected the total Indus discharge. It diminished the intensity of floods and allowed inundation agriculture to expand along the Indus and its tributaries (68). Further drying was, however, detrimental for the Harappans, who relied on annual floods to sustain their economy. Good preservation of numerous archaeological sites at locations seemingly vulnerable to suggest that, as aridity augmented floods became less frequent and/or less intense. The most spectacular case of climate-controlled landscape

transformation was the Ghaggar-Hakra system, which became ephemeral and eventually dried up. flooding and erosion intensified, monsoon



These thoughts have recently been given substance in an extensive study by Giosan et al (71). The study, based on sound morphological and chronological basis and combining the latest archaeological evidence with state-of-the-art geoscience technologies, provides clears evidence that climate change was a key ingredient not only in the rise of the Indus Civilization but also in its collapse. The study also resolves a long-standing debate over the source and fate of the “Sarasvati”, the sacred river of Hindu mythology and largely identified with the Ghaggar-Hakra River braids.

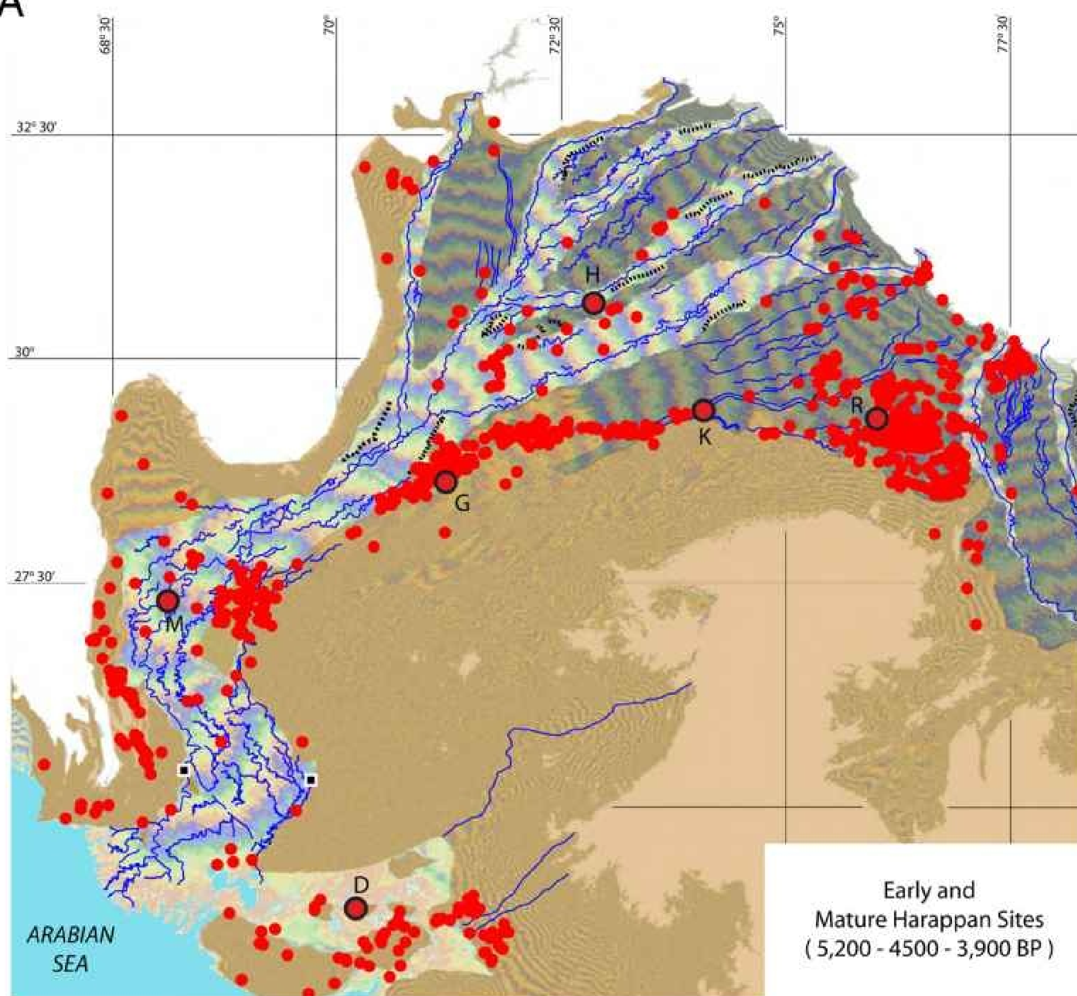
During the early Holocene, that is prior to 10,000 years ago, the wild and forceful Indus and its tributaries flowing from the Himalayas cut valleys into their own deposits and left high interfluvial stretches of land between them. However, the evidence indicates that after about 5,000-6,000 years ago, as rainfall decreased and aridification intensified in the region, the fluvial landscapes in Harappan territory became remarkably stable. Upstream on the alluvial plain, the large Himalayan rivers in Punjab stopped incising, while downstream, sedimentation slowed on the distinctive mega-fluvial ridge, which the Indus built in Sindh. This fluvial quiescence suggests a gradual decrease in flood intensity that probably stimulated intensive agriculture initially and encouraged urbanization in the Indus plains around 2,500 BC. Mapped on top of the vast Indus Plain, the archaeological and geological data shows that settlements bloomed along the Indus from the coast to the hills fronting the Himalayas, as weakened monsoons and reduced run-off from the mountains tamed the wild Indus and its Himalayan tributaries enough to enable agriculture along their banks. “As monsoon drying subdued devastating floods, the land nearby the rivers - still fed with water and rich silt - became just right for large scale agriculture.... The mega-ridge, cut by the Indus is a surprising indicator of the stability of Indus plain landscape over the last four or five millennia. Remains of Harappan settlements still lie at the surface of the ridge, rather than being buried underground.” (71).

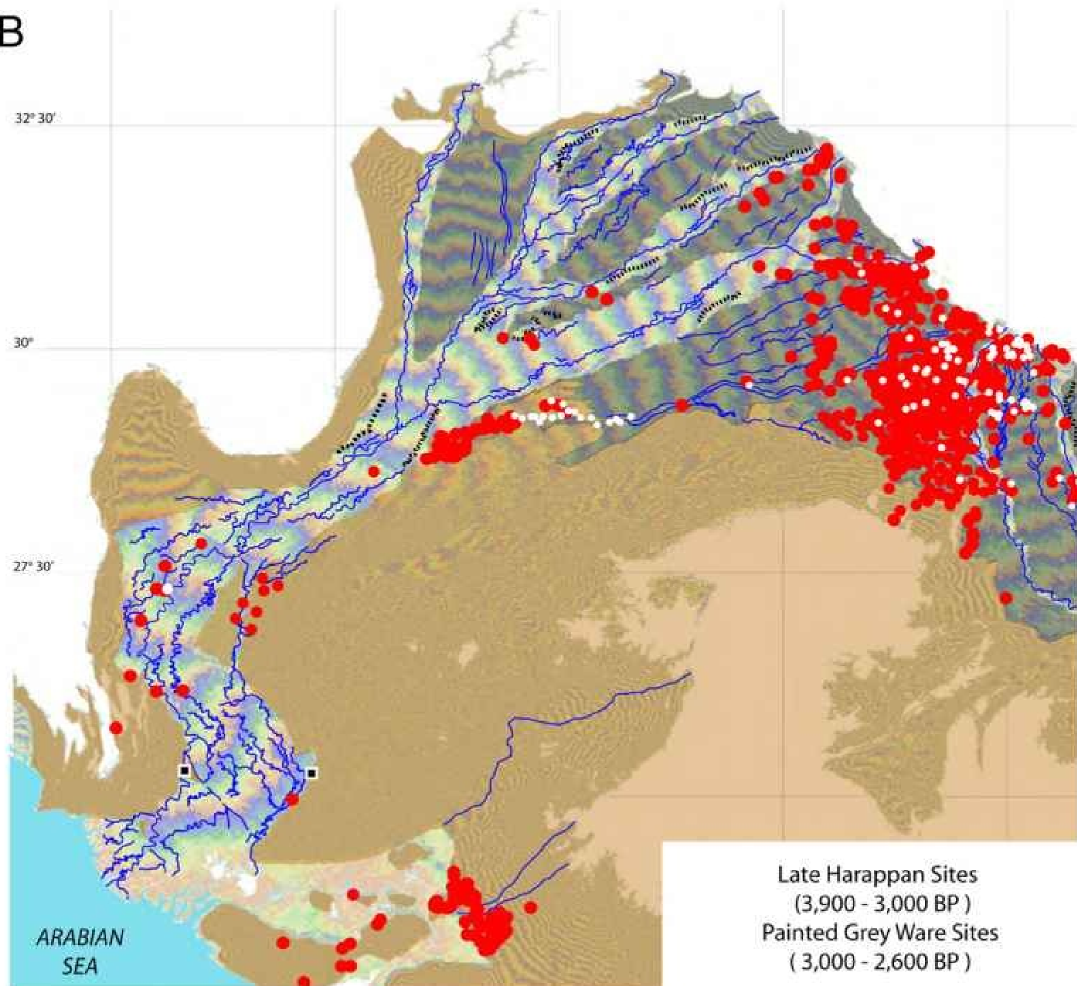
This lasted for almost 2,000 years, but further decline in monsoon precipitation led to conditions adverse to both inundation and rainbased farming. By 4,000 years ago, their rivers drying, the Harappans started to experience economic stress which increased by the passing day. The agricultural surplus being severely reduced, the urban centers could not be maintained anymore. The Harappans had the choice to move or perish. They had an escape route to the East toward the Ganges basin, where monsoon rains remained reliable.

“We can envision that this eastern shift involved a change to more localized forms of economy: smaller communities supported by local rain-fed farming and dwindling streams,” said Fuller, one of the researchers. “This may have produced smaller surpluses, and would not have supported large cities, but would have been reliable.” Such a system was not favorable for the Indus Civilization, which had been built on bumper crop surpluses along the Indus and the Ghaggar-Hakra River in the earlier wetter era. This dispersal of population meant that there was no longer a concentration of workforce to support urbanism.“Thus cities collapsed, but smaller agricultural communities were sustainable and flourished. Many of the urban arts, such as writing, faded away, but agriculture continued and actually diversified,” said Fuller.

In summary, the study showed that the slow eastern shift of the monsoons is what initially supported the civilization by encouraging agriculture, but as the monsoon shifted further east, it weakened the rain-fed rivers that were the lifeline of the civilization. It also drastically decreased the area of seasonal flooding along the snow-fed rivers, such as the Indus and its major tributaries. As the arable land decreased, the agricultural production fell. This, in turn, diminished, or entirely eliminated, the surplus that was needed for supporting that part of the population that was not involved directly in agriculture, which in turn led to diminished social complexity.

PNAS


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ARABIAN SEA
Early and
Mature Harappan Sites
(5,200 - 4500 - 3,900 BP)

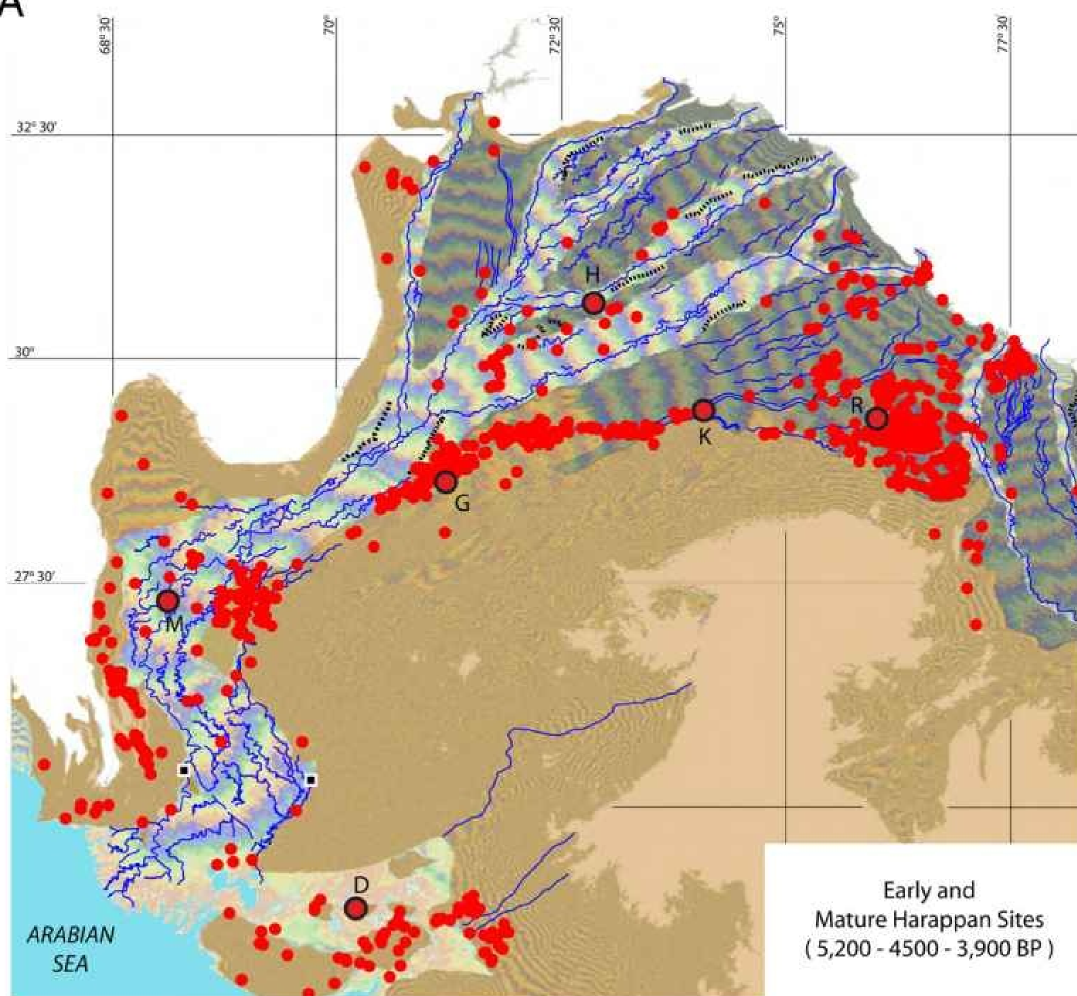

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ARABIAN SEA
Late Harappan Sites
(3,900 - 3,000 BP)
Painted Grey Ware Sites
(3,000 - 2,600 BP)

during the last glacial period, but switched to the Ganges basin before Harappan times.

The present Ghaggar-Hakra valley and its tributary rivers are currently dry or have seasonal flows. Yet rivers were undoubtedly active in this region during the Urban Harappan Phase. We recovered sandy fluvial deposits approximately 5;400 y old at Fort Abbas in Pakistan (*SI Text*), and recent work (33) on the upper Ghaggar-Hakra interfluve in India also documented Holocene channel sands that are approximately 4;300 y old. On the upper interfluve, fine-grained floodplain deposition continued until

Fig. 2. tic valleys (no mask), terrace edges (as dashed black lines), and active and fossilized river channels (in blue). Legend further indicates sampling locations and region names, chronological information (youngest fluvial deposits at all sites), and selected town names.

the end of the Late Harappan Phase, as recent as 2,900 y ago (33) (Fig. 2*B*). This widespread fluvial redistribution of sediment suggests that reliable perennial rivers earlier during the Holocene and explains why Harappan settlements Hakra system without access to a glacier-fed river (5, Fig. 3 Similar, strictly monsoonal rivers maintaining a groundwaterfed base flow are now active only on the more humid Ganga basin (34). We also document renewed fluvial deposition on the lower Ghaggar-Hakra system approximately


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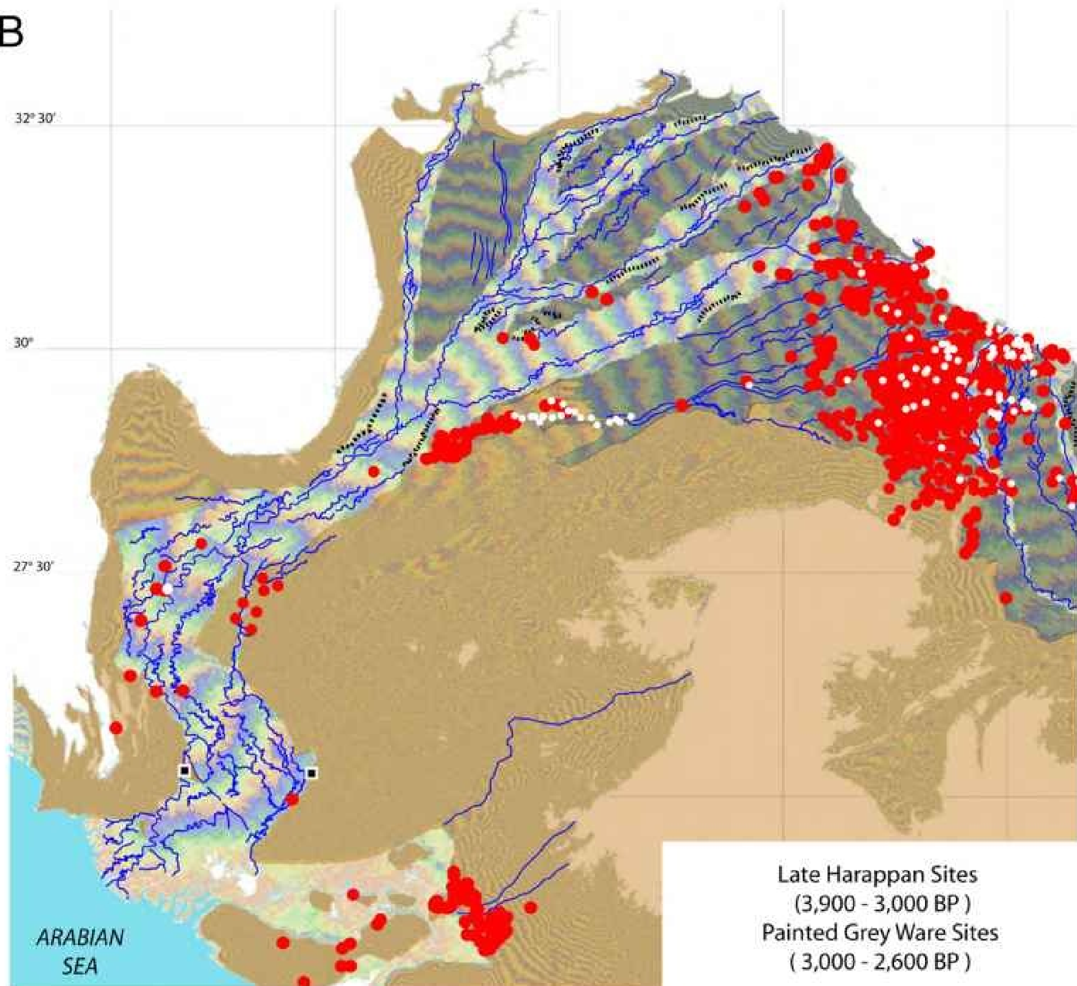

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Late Harappan Sites
(3,900 - 3,000 BP)
Painted Grey Ware Sites
(3,000 - 2,600 BP)

Fig. the western Indo-Gangetic plain (see Fig. 2 for color conventions Harappan sites, with names of some major urban

Chronological changes in settlement density in the Indus Valley:
Top: Pre-Harappan Neolithic Settlements

Middle: Early and Mature Harappan Commu

that seasonal monsoon flows intensified episodically during the

nities

late Holocene and may provide an explanation for the high con

centration of medieval fortified sites in this region (5).**Bottom: Late Harappan villages**

(***Giosan et al*****)** Farther to the south, the five Punjab tributaries of the Indus
merge to form the Panjnad River, before joining the Indus (Figs. 1
centers: Ganweriwala; Rakhigarhi. (Ware (white) sites.

1,500 y old on the edge of the expanding Thar Desert have begun to cover this region of the interfluve, but sediment originating from the Indus-Punjab system, the Ghaggar-Hakra, or from both of these river systems was deposited as late as 4,250 y ago (Fig. 2*B*; *SI Text*).
Zircon dating of sand in this confluence region

and 2
A
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5 m deep) between the two confluences and
that seasonal monsoon flows intensified episodically during the indicates inputs from both Beas and Sutlej drainage basins (32).
1,500 y old on the edge of the expanding Thar Desert have begun
further south along the greater Indus separates vertically the Continuing to the southwest on the Ghaggar-Hakra interfluve, we late
Holocene and may provide an explanation for the high con to cover this region of the interfluve, but sediment originating modern
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centration of medieval fortified sites in this region (5).
gar-Hakra interfluve in the Cholistan region. Dunes younger than
document well-watered lands in the region of Pat, where channels from the Indus-Punjab system, the Ghaggar-Hakra, or from ran parallel with the Indus and joined the Nara valley; their fluvial

Farther to the south, the five Punjab tributaries of the Indus both of these river systems was deposited as late as 4,250 y ago

merge to form the Panjnad River, before joining the Indus (Figs. 1 (Fig. 2*B*; *SI Text* **4of7** and 2*A*). Incision (4 www.pnas.org/cgi/doi/10.1073/pnas.1112743109 5 m deep) between the two confluences and indicates inputs from both Beas and Sutlej drainage basins (32).

further south along the greater Indus separates vertically the Continuing to the southwest on the Ghaggar-Hakra interfluve, we

Contrary to earlier assumptions that a large glacier-fed Himalayan river, identified by some with the mythical Sarasvati, watered the Harappan heartland on the interfluve between the Indus and Ganges basins, Giosan team showed that only monsoonal-fed river-braids were active there during the Holocene. As the monsoon weakened, these monsoonal rivers gradually dried or became seasonal, affecting habitability along their courses. Hydroclimatic stress increased the vulnerability of agricultural production supporting Harappan urbanism, leading to settlement downsizing, diversification of crops, and a drastic increase in settlements in the moister monsoon regions of the upper Punjab, Haryana, and Uttar Pradesh. At the same time the size of all these settlements - old and new - substantially decreased.

The present Ghaggar-Hakra River and its tributary rivers are currently dry or have seasonal flows. Yet rivers were undoubtedly active in this region during the Urban Harappan Phase. Giosan team

recovered sandy fluvial deposits approximately 5,400 years old at Fort Abbas in Pakistan, and recent work (72) on the upper GhaggarHakra interfluve in India also documented Holocene channel sands that are approximately 4,300 years old. On the upper interfluve, fine-grained floodplain deposition continued until the end of the Late Harappan Phase, as recent as 3,000 years ago (72). This widespread fluvial redistribution of sediment suggests that reliable monsoon rains were able to sustain perennial rivers during the Holocene and explains why Harappan settlements flourished along the entire Ghaggar-Hakra system without access to a glacier-fed river. However, the flow in these river-braids could not be maintained when the rainfalls shifted further east. Strictly monsoonal rivers maintaining a groundwater-fed base flow are now active only on the more humid Ganga basin. Giosan team also documented renewed fluvial deposition on the lower Ghaggar-Hakra system approximately 700 years ago, which indicates that seasonal monsoon flows intensified episodically during the late Holocene and may provide an explanation for the high concentration of medieval fortified sites in this region (73).

Settlements of the post-urban period are preferentially located near the easily flooded region at the confluence of the Indus with rivers in Punjab or in eastern regions with more reliable monsoon rains. Diversification of agriculture towards Kharif (summer) rain-based crops and the increase in drought-tolerant crops like millets at the end of the urban phase reveal intense efforts to adapt to hydroclimatic stress at the arid outer edge of the monsoonal rain belt.

Although snowmelt continued to regularly provide water to the Indus and its Himalayan tributaries, the Harappans did not develop canal irrigation. In contrast to inhabitants of Mesopotamia and Egypt, which were surrounded by arid lands, the Harappans had the option to migrate east toward more humid regions of the IndoGangetic Divide. Migration toward the periphery could have contributed to reduced population in the core region of the Harappan domain and the decline of urban centers.

The unprecedented scale of hydroclimatic stresses must have increased the vulnerability of Harappan society, but does not provide a simple, deterministic explanation for the transformations in site size, distribution, and interrelationships across the whole civilization area (74,75,76). The longevity of the decentralized late Harappan phase and continued habitation documented in places in Sindh and lower Punjab suggests that the perennial flows of the Indus and its Himalayan tributaries still flooded agriculturally viable lands, albeit less extensively than earlier. As a lesson from the past, the possible return to stronger monsoon-augmented floods, similar to the disastrous events of 2010 in Pakistan, may render current flood controls and irrigation systems vulnerable and require the large-scale adaptation of modern society in the Indus Plain (71).

The shifting of monsoons pattern towards the East and with it the depletion of agricultural resources in the West is emerging the most credible cause of the Harappan collapse and a general shift of population from west to east during the early second millennium BC. There are, however, some dissenting voices. For instance, Ratnagar (38) questions the validity of the absolute relationship between the climate and the civilizational set of traditions. “We do not know how rapid the onset of aridity would have been in the relevant regions, and we have said that its impact would vary according to local conditions. Human societies like that of Egypt have often shown the capacity to adjust to or recover from adversity, and there are references in Egyptian literature to the utilization of grain stores and successful distribution of food in the affected areas at such times.” (38)

This holds true even for the phenomenon of damaging river floods. Butzer (51) found evidence of a

series of catastrophic floods of the Nile, river levels say 2 m higher than average on the flood plain between 1840 and 1770 BC, but this period in Egypt saw robust administrative institutions being established, strong rulers, and trade with the eastern Mediterranean and with Nubia. The Egyptian evidence alerts us to the dangers of the reasoning of the sort epitomized in the Gujarati proverb *kagdanu besvun ane dalnu padvun* ('the alighting of the crow and the fall of the branch'): two phenomena that appear sequentially or contemporaneously in the archaeological sequence need not be in causal relationship to each other (38).

Resource Depletion: Resource depletion arguments are perennial favorites in collapse studies. They have been prevalent for some time in Mesoamerican and Southwestern studies, but have also begun to gain prominence in eastern North America, Europe, and the Near East. The possibility of resource depletion is, of course, a major concern to contemporary forecasters (78). Resource depletion arguments, to judge from the number advanced, are perpetually attractive. There is something to these arguments, for no society can maintain itself when its resource base is depleted beyond a certain point. Yet long before that point is reached a whole range of responses may be undertaken. Here is the first of several problems which make one uneasy at the resource depletion theory.

The resource depletion argument, at base, ascribes collapse to economic weakness, often suddenly induced. Most investigators would assume at the outset that economically weakened societies are indeed prone to collapse, so this point may be taken as a warranted assumption. One supposition of this view must be that the societies sit by and watch the encroaching weakness without taking corrective actions. It is curious that they would collapse when faced with precisely those conditions they are equipped to circumvent. This objection has been conclusively countered by Jared Diamond in his celebrated book, *Collapse: How Societies Choose to Fail or Succeed.* There have indeed been a number of societies in history who precisely did nothing when faced with the problem of resource depletion. Some societies even continued accelerating the process of resource depletion in the face of coming catastrophe. Apart from this inertia, it is entirely possible that environmental fluctuations or deterioration may occur which existing production systems and social arrangements cannot overcome.

Tainter (4) argues that if a society cannot deal with resource depletion (which all societies are to some degree designed to do) then the truly interesting questions revolve around the society, not the resource. What structural, political, ideological, or economic factors in a society prevented an appropriate response? This is no idle question, however simple it may seem. One study of the Hohokam of the American Southwest, for example, asserts that environmental deterioration caused collapse in one instance (Sacaton to Soho phases), but increased complexity in another (Soho to Civano phases). Elsewhere, J. Hughes (50) cites deforestation as a cause of the Roman collapse. Yet Wilkinson (79) has shown how in late- and post-Medieval England, deforestation spurred economic development and, far from leading to collapse, was at least partly responsible for the Industrial Revolution. Clearly the major factor in understanding these episodes is not that a resource was depleted, but that the respective societies responded in different ways. Why would resource stress lead to collapse in some instances, and to increased complexity and economic intensification in others? Citing resource depletion does no more than scratch the surface of an enormously complex matter (4).

Butzer (52,53)) and R. McAdams (80), in awareness of such problems, present scenarios in which environmental, social, and political factors intertwine. Both have developed plausible explanations of

collapse in the specific cases they have studied. Yet while the incorporation of political factors in Butzer's and Adams' studies is a strength of their individual efforts, it also betrays a weakness in the broader approach. To the extent that elite mismanagement or miscalculation figures in, for example, the Mesopotamian cases, we are left with a major explanatory *lacuna*.

The issue of resource depletion looms large in the studies of the Harappan collapse and there are a variety of resource depletion arguments. Both Thapar (81) and Sharer (82) as well as Ratnagar (38) implicate depletion of vital resources in Harappan collapse. It has been shown above that the continual shifting of monsoons to the East and the resulting decrease in the frequency and the extent of river floods had put the Harappans in an unenviable position of depleting source of living, the food. As a response to this adverse situation on which they had but little control, the Harappans exercised a number of responses. First, they started to move to the areas that offered them better agricultural potential. These areas happened to be generally east of their erstwhile core region. The rainfall was somewhat better and the water streams flooded



more regularly. Second, they shifted their settlements to the areas near the confluence of the rivers in Punjab and Sindh and near numerous waterholes that were scattered along the erstwhile river beds. Third, they decreased the size of their settlements but increased their number and continued living along the rivers in the areas which still afforded substantial flooding for their agriculture. Fourth, and probably equally important, they took up the cultivation of summer crops, especially those that could be grown in relatively arid conditions - the millets, such as Jawar and Bajra - along with their traditional crops of barley and wheat.

These responses were, of course, not sufficient as to produce an agricultural surplus through which they could maintain their existing cities or found some new ones, but the life went on in the Indus

Valley and the adjoining areas to their east. In this respect, it was not a failed society, it was merely an adequate response to the circumstances which they could hardly control. The cities, towns, and large villages were forsaken for more appropriate smaller communities who kept on earning their living through agriculture and pastoralism as they did in the preceding urban phase.

SOCIAL AND CULTURAL ISSUES

A host of non-materialistic explanations have also been offered. Decadence of the elite, the loss of spirit, revolts of the peasants against the city folks, the law of nature (the one that is borne, must eventually die), mysterious factors, failure of the Harappan to adapt, and the imbalance in the social composition are some of them.

Insufficient Response to Circumstances: The basic factor that unites the rather disparate arguments under this theme is the notion that fundamental limitations of social, political, and economic systems prevent an appropriate response to circumstances, and this makes collapse inevitable. Two of the major views considered here, well known in the history of anthropology, are those of Betty Meggers (87) regarding environmental limitations to civilization, and Elman Service (88,89) on the 'Law of Evolutionary Potential.' Toynbee's 'Challenge and Response' theory is not included.

Meggers' argument was simple: more productive environments can produce more complex societies. More specifically, "... the level to which a culture can develop is dependent upon the agricultural potentiality of the environment it occupies." As this potentiality improves " ... culture will advance" (87). Classifying tropical rainforest as inadequate in this regard, Meggers encountered the problem of the Maya. Her solution: Mayan civilization must have been introduced from elsewhere, and the history of Mayan occupation should represent decline or disintegration. Introduce a civilization into an environment that is inappropriate, and ultimately the environment will win. Mayan society could not respond appropriately to its circumstances.

A similar view argues (sometimes implicitly) that complex societies are unstable, not just in certain kinds of environments, but inherently. Kent Flannery (90) and Roy Rappaport (91) are the best known proponents of this line of reasoning. These authors suggest that more complex societies are, more closely interlinked they are, with greater mutual influences among parts. Selfsufficiency and autonomy of local systems are reduced as specialization increases. As specialpurpose subsystems become increasingly differentiated, stability declines. Disruptions occurring anywhere will be spread everywhere, whereas in less complex settings a society would be cushioned against disruptions by less specialization, less interlinkage among parts, and greater time delays between cause and ultimate outcome. Civilization itself, to Rappaport, may be maladaptive: "Civilization has emerged only recently - in the past six thousand or so years - and it may yet prove to be an unsuccessful experiment' (91).

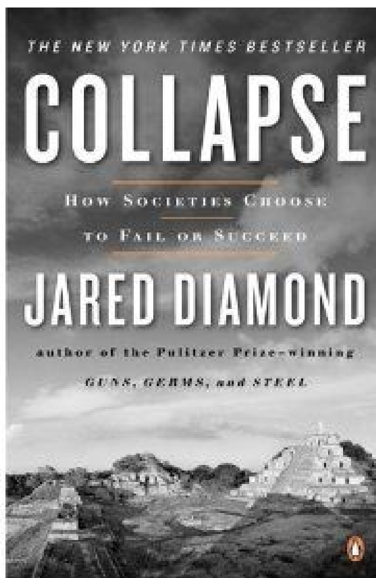
Elman Service's 'Law of Evolutionary Potential' (88) states as follows: 'The more specialized and adapted a form in a given evolutionary stage, the smaller its potential for passing to the next stage' (88). Specific evolutionary 'progress' is inversely related to general evolutionary 'potential' (88). Within this view, success at adaptation breeds conservatism; dominant polities are less able to accommodate change. Successful complex societies become locked into their adaptations, and are easily bypassed by those less specialized. So by having greater flexibility, less complex border states gain an increasing competitive advantage, and are thus able ultimately to topple older, established states (88). Service uses this principle to account for the success of barbarians along China's northern

frontier, in Mesopotamia, and in Mesoamerica, and for discontinuities in political developments in Peru (66). In each case, he suggests, newly civilized peripheral populations adopt some competitive advantage (an organizational feature, weapon, tactic, or the like) that the old center is too conservative to adopt, and thereby rise to dominance (89).

Service's Law can perhaps be expanded into a more general 'failure to adapt' argument. Several authors make such an argument: that complex societies disappear because of some inability to bring forth an appropriate response to circumstances. Melko (92), for one, argues (like Service) that once established a civilization's capacities for change become limited. Collapse results from sociopolitical ossification, bureaucratic inefficiency, or inability to deal with internal or external problems. Ho attributes the decline of Ming China to such matters (93) . Writing as a sociologist, Buckley argues that rigidity in any social institution must lead to internal upheaval or to ineffectiveness against external challenge (94) . Gregory Bateson suggested that civilizations expire by loss of flexibility, and that flexibility is lost automatically if it is not exercised (95).

Inhis book, *Collapse*, Jared Diamond recounts several reasons of collapse, the most common of which is that societies often fail to even attempt to solve the problem. Another reason Diamond cites for failure of societies is the reluctance to abandon a policy in which the society has heavily invested. An example of this would be Christian conventions of the Norse in Greenland prevented them from making the drastic lifestyle changes that might have helped them to survive longer.

By and large, these 'failure to adapt' arguments are superior in one re



spect to many considered up until this point. Recognizing that an understanding of collapse often depends more on the characteristics of the society than of its stresses, these authors postulate causal mechanisms - such as environmental insufficiency and the Law of Evolutionary Potential - to

explain why adaptive responses are not made. This is a significant step. Yet as intriguing as some of these explanations are, they seem as a lot to rely on certain assumptions about the nature of complex societies, assumptions that the authors leave implicit. If these assumptions are made explicit, we will find that they give us cause for hesitation. The assumptions seem to revolve around three models of complex societies. For lack of more elegant terms, Tainter calls them the *Dinosaur* model, the *Runaway Train* model, and the *House of Cards* model.

In the Dinosaur model, a complex society is seen as a lumbering colossus, fixed in its morphology, and incapable of rapid change. Locked into an evolutionary dead end, it represents an investment in structure, size, and complexity that is awesome and admirable, yet highly maladaptive. When stresses arise, such a society cannot adapt, and so must expire. Complex societies seen thus present a spectacle of power that evokes both wonder and pity. In colloquial terms, they are all pitiful, helpless giants, and are inevitably outcompeted by newer, leaner, more aggressive societies.The Dinosaur model, as characterized, is coincident with the Law of Evolutionary Potential, as well as with derivative and similar theories. The argument of this 'Law' is that all societies, complex or otherwise, run the risk of adapting so well to existing circumstances that change becomes impossible. Among complex societies this tendency becomes fatal when newer societies acquire capabilities that the lumbering colossus is incapable of adopting.

The Runaway Train model may be a variant of the Dinosaur model, but it has its own distinct characteristics. A complex society is seen as impelled along a path of increasing complexity, unable to switch directions, regress, or remain static. When obstacles impinge, it can continue in only the direction it is headed, so that catastrophe ultimately results. The variety of studies that cite positive feedback mechanisms make precisely this assumption about complex societies. Ferrero's arguments about urbanization in the Roman Empire, Sharer's views about social and economic intensification among the Maya, and Conrad and Demarest's account of the Aztecs and the Inca, all assume that some factor in these societies made it impossible to deviate from their catastrophic paths.

The House of Cards model differs from the previous two. It suggests that complex societies, either as a rule or in certain kinds of environments, are *inherently* fragile, operating on low margins of reserve, so that their collapse is inevitable. Meggers' environmental limitation theory, andFlannery's and Rappaport's maladaptation arguments, fall under this model.

There is much to give one pause in these models and their potential application to the Harappan Civilization. Our present knowledge of this society does not allow us to either conclude or assume that it was inherently fragile, or static, or incapable of shifting directions, or that it could not respond to productivity fluctuations, catastrophes, or other ailments. Nonetheless, the Harappan society seems to be so well-adapted - practically no change in material culture through the entire lifespan of this civilization - that it resembled a dinosaur. When the environmental stresses emerged, it was incapable to adapt and expired as an urban polity. It inspired awe but at the same time invited pity. Or, it saw the changed situation and, instead of continuing on the same path as a runaway train, changed its direction and adapted to new circumstances.The Harappan survived but survived as a simpler society.

Conflict, Contradictions, Mismanagement: Judging by the number of authors whose work falls under this theme, it may be the most popular approach to understanding collapse. There is some variety in the approaches lumped herein - class conflict, Marxian contradictions, and elite misbehavior or mismanagement - but the common underlying theme is antagonism and conflicting goals between social classes. Collapse is thought to result from such conflicts through withdrawal of support and outright revolt by peasant populations, and by elite self-serving and political mismanagement. There are a variety of both general and area-specific applications of these ideas but since we do not know much about the political working of the Harappan society, it is hard to judge if these considerations have any relevance to the collapse of the Harappan Civilization.

Tainter advances two points regarding elite exploitation and mismanagement. These are: 1.

exploitation is a *normal* cost of stratification;

and
2. bad government is a *normal* cost of government.
Clearly these points cannot be regarded without controversy. The argument is that these things occur with such expectable regularity, and are so difficult to predict, that a society finding it necessary to invest in stratification and/or government must expect exploitation and/or misgovernment as a normal cost of that investment. It seems difficult, from the experience of history, to argue otherwise.

Social Dysfunction: This is a vague theme that requires little discussion. Its essence is that societies collapse processes whose Popular writers like to think in terms of social dysfunction, and often expound vaguely about unraveling of the fabric of society. These studies alike offer neither sources of stress nor causal mechanisms that can be analyzed in any objective manner. They are unsatisfactory as explanations for collapse.

Mystical Factors: Mystical explanations are second in popularity to those that postulate class conflict. Their essence is that they contain no reference to empirically knowable processes, and often make value judgements about particular societies. Mystical explanations rely on concepts like 'decadence,' 'vigor,' or 'senility'; societies are ranked according to these subjective factors, and collapse is explained accordingly. 'Decadent' societies, in this view, are seen negatively, and are axiomatically liable to disintegrate. Many, many such theories have been developed, of great diversity, indeed often of diametrically opposite views. They are united in their lack of concern with empirically knowable or observable factors, and in their reliance on an author's subjective assessment of individual societies (4**).**

In contrast to the themes discussed to this point, mystical explanations are presented more often as universal theories than as case-specific scenarios. There are plenty of the latter to be sure, but for once they need not dominate the discussion. The best known of such accounts are those of Spengler and Toynbee, but these authors are merely the most prominent of a crowded field, a field with a long history indeed.

Mesopotamianhistoriographycontains what must surely be one of the oldest explanations of collapse. In considering the fall of Sargon of Akkad and of the Thira Dynasty of Ur, the decline of empires was ascribed by Mesopotamian writers to the impiousness of rulers, and to marauding enemies sent by the gods as punishment. Cities flourish under good kings, but suffer under impious ones.

Anything of sort could have happened to the Indus Civilization or none of it could have any relevance. If we could read their writings, the Harappans would probably have been talking about their rulers as being impious and the elite blaming the common people as being lazy and immoral. Even if we could hear their voices, it due to mysterious internal

nature cannot be specified. would still not matter: the mystical factors are inherently unknowable and value judgement has no place in scientific enquiry.

Among these mystical factors is the ‘ideology’. Possehl is the one who seems to blame the ‘Indus ideology’ for the failure of the Harappan Civilization. “ The Indus ideology ultimately had feet of clay. The zealots, the "true believers" of the Indus Civilization ultimately lost, perhaps not everything, but their civilization failed, not as an entire culture but as a complex society” (96). And, “.... the

explanation was not likely to be found in natural calamities of any kind, but within the fabric of the Indus sociocultural system. That is, the fatal flaw was centrally, and most importantly, sociocultural in nature; not flood, avulsion, drought, trade, disease, locusts, invasion, or any other of a myriad of "natural" or "outside" forces. A failed Indus ideology is here proposed to be the sociocultural flaw".

For elaborating his theory, Possehl points out that historically the Mature Harappan is a short-term phenomenon, it lasted a mere 600 years, as opposed to Dynastic Egypt, which encompasses 3,000 years of history, or Chinese civilization, which has survived for at least as long. Because it was a short-term phenomenon from a comparative point of view, the Indus Civilization also emerges as a kind of experiment in sociocultural organization, and one that was not entirely successful.

It would be wrong to imply that the Indus Civilization was a failure from its beginning. The ideology that these peoples brought forth made them highly successful for 600 years and spread over a vast expanse of the Indus Valley. The Indus peoples built and maintained great urban centers, conducted maritime trade with the gulf and Mesopotamia, and probably reached Africa. They were economically prosperous for their time. They en
joyed the art of writing, were successful technological innovators on a huge scale, and their iconography was integrated into the Intercultural style of the Middle Asian Interaction Sphere. These all tell us of a well-oiled socio- cultural system that had created great social harmony in human relationships and with the environment.

This sense that the Indus peoples were part of a well-integrated, well-organized society has been noted before, beginning with Wheeler and his comments on the well-ordered nature of the Mature Harappan settlements, the sameness of it all, the lack of evidence for conflict, let alone warfare.' "I believe that these observers of the ancient Mature Harappan world were seeing the outcome of the successful Harappan ideology: a well-integrated, harmonic sociocultural system. But it might have been too well adapted for its own good", concludes Possehl (96).

One can argue, as J. C. Heesterman has (97) , that sociocultural systems with great time depth, those that have survived for millennia, rather than centuries, are characterized from their inception by an inner conflict, a lack of resolution of important sociocultural issues. It is these unresolved conflicts that provide the motive force for survival over protracted periods of time, since the peoples are in a constant state of negotiating, resolving, dealing with the maladaptation or lack of harmony in their lives. If the world stood still, the well-integrated, tightly organized sociocultural systems like the Indus Civilization would work pretty well. But the world does not stand still and sociocultural systems of this highly integrated type, which does not require constant negotiation, are vulnerable to changing conditions, both external and internal. It might take 600 years for the system to fail, but eventually the changing world catches up with them. On the other hand, sociocultural systems that lack perfect harmony, that are endowed with Heesterman's "inner conflict," where the peoples find themselves in a constant state of negotiation and the resolution of inconsistencies, even contradictions, are less vulnerable since they are continually dealing with their problems, and a constantly changing world is just one of them (96).

Robert McC. Adams (98) has dealt with this same sort of sociocultural/historicalissue. He thinks of stability as a propensity for systems generally to return to equilibrium after a temporary disturbance. The behavioral qualities that characterize such systems are consistency, integration, and the optimization of performance. Systems of this sort tend toward rigidity and brittleness. Resilience, on

the other hand, reflects a primary concern with long-term survival. Behavioral qualities that can be associated with resilient sociocultural systems are an ability to deal effectively with contingencies of many sorts and sufficient lack of integration that a certain level of disequilibrium is always present. Such sociocultural systems survive because they are able to successfully negotiate within a dynamic historical setting, a world that is constantly in flux.

This was, however, a brief period of time - merely 2000 years or so. As the aridity further increased, the flood-irrigated areas decreased, agricultural production diminished, pastures for the grazing of animals shrank, and people started to disperse in search of "greener pastures", which they saw toward the East. In the absence of the 'surplus' on which the city folks fed, the cities dwindled, the social cohesion of the society disintegrated, arts and crafts took a nose dive, and a general chaos ensued. The barbarian tribes at the western edges of the civilization saw this weakness, they started to encroach on the arable lands, and made incessant raids on the established villages and towns. A final blow was thus struck, the civilization as a whole came down tumbling.

This is, of course, a simplistic picture and a lot more could have been involved. For example, discounting the theory of increasing aridity under a change of monsoonal direction towards east, one could buy the Tainter's idea as an alternative. The available resources and the sociopolitical structure of the Harappan society may have been such that further increase in complexity was not possible unless the state (or the commonwealth of the city states) continued expanding and bringing new resources under control. As the expansion came to a halt, the Harappan society quickly reached a state of diminishing returns on complexity. It is possible that the 'cost' continued unabated while the return on investment shrank. The people were better off to abandon the whole system, they returned to a system of lesser complexity, and urbanization came to an end.

As a very general principle, the application of this framework to the Harappan Civilization cannot be automatic or mechanical. Each society that has collapsed has done so under a set of circumstances that were partially unique. The application of a general principle to such diversity requires different considerations in each case, including sensitivity to such diversity to the peculiar circumstances of local histories, such as, in the Harappan case, the climate change and the intrusion of barbarians.

CONCLUSION

What were the reasons for such a drastic cultural change, and what did cause it? We have enumerated several theories and hypotheses which attempt to answer this question but none seems to be convincing in all respects. Probably there was not one cause; there might have been more than one enabling factors. Opinions will, of course, differ, but we would put our marbles in the basket of climate change, caused by increasing aridity that started right after the end of the Ice Age. As the ferocity of the floods decreased due to a gradual decrease in rainfall, it became possible to undertake a flood-based agriculture on a large scale, consistently producing a food surplus on which the great Harappan cities could rise. REFERENCES

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Chapter 4

Terminal Occupations, Abandonment, and Migration*



The decay and demise of the Harappan Civilization is evident from a visible change in settlement pattern. It is strikingly seen in the desertion of the largest Harappan urban centers and the majority of smaller settlements. For example, out of 83 Harappan habitation sites in Cholistan, only one continued to be occupied. Large cities were abandoned or shrank to negligibly small occupations. At the five largest settlements, Mohenjo-daro, Harappa, Ganweriwala, Dholavira, and Rakhi Garhi, there are no vestiges of posturban occupation (1). At the same time 27 new settlements in the Hakra region and a larger number in the upper regions of Ghaggar system were established.

The abandonment of sites is not specific to the Harappans; it has been a recurring theme during the life span of many civilizations. Settlements have frequently been abandoned because of repeated droughts in a region, or village epidemics, destruction of houses by flood, the wearing out of soil fertility, threat of war and destruction, or the promise of better land elsewhere. Despite this frequency of occurrence this phenomenon has, not been studied adequately. Cameron and Tomka have produced an edited book (3). Contributors to this collection on site abandonment draw on ethnoarchaeological and archaeological data from North and South America, Europe, Africa, and the Near East. There is one recent study reported by Robert A. McLeman (4) wherein he reports the environmental and non-environmental factors that may give rise to settlement abandonment. Inomata and Webb have described the abandonment of settlements in Middle Americas (37). The abandonment of sites in at the end of the Harappan Civilization has been dealt by Shereen Ratnagar (1). This is an excellent summary of the subject and we extract the following description from this source.

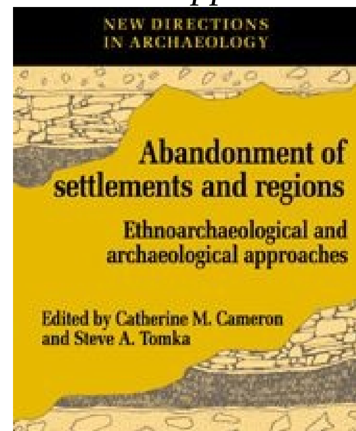
During the life span of a town or village some of its houses may be emptied of occupants, even as life in the settlement continues; it can happen that people move out of a settlement in stages, over decades; or else an abandonment can occur all at once. The problem is that archaeologists have few devices to distinguish one mode of moving out from another. We only have some clues to go by, no hard-and-fast criteria, no 'laws of the archaeological record of abandonment'. As Adams (2) has pointed out, in house repair there is no gentle way of removing a wall - it has literally to be knocked down and an excavator may mistake this for an act of violence.

We do not know over what length of time the various Harappan cities and villages were abandoned. But we do know that none of them were abandoned suddenly and catastrophically. In all appearances, the process of abandonment was gradual. This is evident from the archaeological remains on the topmost layer of Mohenjo-daro and Harappa. Additional evidence comes from other cities, particularly from Kutch and the Divide.

The Harappan world spanned nearly 700 years and included an area of greater than 800,000 sq.km. These people built large villages, towns, and cities with monumental architecture, and maintained

extensive and complex economic relationships throughout the region, particularly with the peoples of the Persian Gulf, eastern Iran, and Central Asia. The Harappan settlement in the Indus Valley and the surrounding areas was characterized by deep sedentism, with many locations supporting large communities for several hundered years. Yet, by 1500 BC, the entire area gives an impression of utter devastation and a

*This chapter is largely based on the material extracted from Shereen Ratnagar's *The End of the Great Harappan Tradition*



drastic decrease in population. Why would such a large nuber of people abandon an area where they had prospered for so long and where did they go? In this chapter we attempt to find some answers to this question.

Often, research directed toward explaining such phenomena is limited in temporal and spatial scope in a way that renders large-scale processes difficult to understand. This limitation can be addressed through more synthetic and comprehensive approaches to regional archaeology, in the Indus case, for example, bringing in the demographic and settlement changes in the Divide and Gujarat. A more subtle limitation, through has to do with our assumption about the tempo of archaeological change. The abandonment of sites in Sindh and Cholistan has been hindered by a

f o c u s o n d r a m a t i c events coincident with terminal occupations. Complicating the situation further, we always have specter of the intrusion of pastoral nomads from the West, including the so-called Aryans, with their disturbing influence on population density, especially on the west of the Indus River. A more

explicit and systematic consideration of long-term demographic processes provides valuable insight into such problems.

Among the most common explanations for the abandonment of the core Indus sites, including those in Cholistan, are social conflict, floods, channel incision, disease, and environmental degradation. These possible causes we have discussed in details in Chapter 3. The most cogent explanation, however, seems to be related to an adverse the climate change, that is a prolonged period of desiccation. Although not fashionable these days, the incessant raids of barbarians from the West, which could be triggered by a wrong turn of the climate, could be an equally potent factor. Whatever the reasons, the evidence does not suggest conditions that would have caused sudden and complete abandonment of the region. The problem is compounded by a lack of evidence for the destination of large number of people, beyond a perceptible increase in the number of settlement in the areas to the East of the Indus Valley. Whether this increase in settlement density came from the migrating Indus

people from the West, or was it the result of settling of the huntergatherers of East Punjab, Haryana, Western Rajasthan, and Gujarat, cannot be said with any degree of certainty. The situation, thus far, has largely been perceived as a catastrophic event creating unbearable living conditions and resulting in large-scale abandonment.

The Ways of Abandonment: Groups of people abandoned sites in different ways, and for different reasons and what they did when they left a settlement or area had a direct bearing on the kind and quality of cultural remains that entered the archaeological record, for example, whether buildings were dismantled or left standing, or tools buried, destroyed or removed from the site (3). The process of abandonment, as stated above, could also be different. It can happen that people move out of a settlement in stages, over decades; or else an abandonment can occur all at once. Gradual, piecemeal shrinkage is what Beach (5) suggests for the imposing Shona capital, Great Zimbabwe. He argues that it had more than one royal enclosures, each built in a different period, for rulers, their sons, and their affiance kin. After AD 1450 the great center became the target of raids and people gradually moved away. The power of the rulers declined and they started to move away until ’finally and figuratively, the last inhabitant expired next to the grave of the second-last inhabitant’ (5). There are examples where settlements were abandoned through a deliberate and well-executed process. The Mayan cities were abandoned with ceremony and ritual as Maxime Lamoureux St-Hilaire describes in her thesis (6).
When evacuating a village or town, people will, if they have the time, salvage roof logs, grinding stones, portable pottery, food grain, and other useful items, to carry away (3). Some rooms or houses will have lain unused for a while, piled with discarded things, before departure, or, as at Altyn-depe, be used as burial place. People may pull out house posts, and sometimes postholes contain telltale pebbles or sherds which show that the wood of the posts did not decay *in situ* (7). Very few items of utility or cultural value will be left behind. For example, we will not find grain in the storage jars or silos, or uncast metal ingots on the floor of the workshop, or icons at the hearth. A good example is the Akkad period palace at Tell Brak in Syria, which was a storehouse and administrative center with a large ceremonial unit and a temple. It was abandoned after about 2200 BC. Its contents were removed, and then offerings were placed within, followed by a ritual filling in the rooms (8).

In contrast, hurried departures during times of violence may be indicated by (1):
(a) burnt buildings with their fixtures and appointments during use still in place, though charred or broken. Items that were to be baked may remain stacked near a kiln that was never fired, as at Ugarit (9). The tip of a spearhead may be found embedded in a piece of wood (Shahr-i Sokhta). A child's charred skeleton may be found clutching some object and lying under fallen rooflogs (Shahr-i Sokhta).

(b) jars set in floors can be seen to have broken there, so that they can be reconstructed from their pieces. The sherds on the floor of a hurriedly abandoned room will tend to give the parts of entire pots that were in use in that structure,

(c) walls with signs of recent repair or plaster,

(d) craft items left half finished at the place of manufacture as at Ugarit (9),
(e) valuables or culturally significant items, of no use to the destroyers or to subsequent squatters, used in ways never intended. After destroying Ugarit its pillagers used some clay tablets inscribed with religious texts to support shanty walls. At Dholaviraa vandalized stone statue came to support a

wall.
(f) valuables or culturally significant items like religious emblems or statuary or rulers' inscriptions smashed or defaced,
(g) the dead hurriedly buried in non-customary spots or ways,
(h) safely or secretly deposited wealth items left behind in the rush to flee the enemy. That these were secreted wealth and not votive offerings or ritual building foundation placements will be indicated by disturbed floor paving. Adams (2) points out that evidence of burning is not by itself proof of attack or invasion.
Residents may burn down houses because of vermin or disease. But in a kind of classic instance of attack, at Tepe Hissar in north-eastern Iran (a settlement which will be of relevance to our argument) we find several signs, such as burned and charred walls, recently renewed plaster, charred roofing material, a post-hole with charred wood remains, a number of flint arrowheads in the vicinity of the building, metal weapons, and crushed skeletal remains. There were also spills of charred wheat and a storage room with fifteen large pots crushed by roof collapse.
This burned building at Hissar presents an archaeological situation in total contrast to the evacuated palace at Tell Brak. Most situations, however, fall somewhere between these extremes.
Quick abandonments, but without violence or destruction, may be indicated by: (1)
(a) grain remaining in storage jars or silos
(b) charcoal remaining in fireplaces,
(c) half-finished craft work, associated tools and raw materials remaining in "'workshop” areas,
(d) the pottery (broken or intact) recovered in individual households representing the entire range required for domestic use,
(e) clean-swept house floors and courtyards,
(f) the figurine or emblem of a family deity in its place in the home,
(g) thick (say 30 cm) layers of roof collapse on disused floors showing that roofs were not salvaged and subsequently fell in,
(h) buried wealth left unretrieved,
(i) usable items left behind, these being obviously not part of the day-to-day refuse of a family. With these clues in mind, Ratnagar takes up the Harappan evidence.
Abandonment of the Indus Cities and Towns: *Mohenjo-daro:* We begin with Mohenjodaro, probably the nerve center of the civilization, judging from its size, architecture, exotic materials, and range of artifacts. As is almost invariably the case, the uppermost strata of a mound, in which we would seek clues for the nature of the abandonment, are the worst preserved. The remains of buildings that have been abandoned and exposed to the elements for centuries crumble into incomprehensible patterns. Over the centuries, following the death of a city, people of the surrounding region come in to take away bricks or stones for use elsewhere. In Sindh we have long dry months which mean exposure to the sun and wind, followed by rainy months when crumbled particles get washed away. Year after year the finer particles of soil can get swept away by wind and heavier material, such as broken bricks and pottery pieces, settle to form a kind of cap over the top of the mound. Rain, in its turn, can wash away floors or artifacts and re-deposit material at the bases of slopes, often in reverse order of their original vertical sequence.
Mention has been made above of the evidence for the dismantling of structures in the general process

of settlement evacuation. House V in HR-B, Block 2, provides some interesting pointers (1). It has a large courtyard, with 5 short walls of decreasing length perpendicular to a rear wall. In room 49 were found, together with two limestone pillar capitals, a dump of eighteen large alabaster rings, each about 25 cm high, and polished smooth. They had internal cavities in their centers, of about 11 to 23 cm in diameter, and thus could have supported wooden posts. They appear, therefore, to have been some kind of architectural element. (This kind of artifact occurs only in the large cities, Harappa, Mohenjo-daro and Dholavira). But obviously room 49 was not the place where any such columns had originally stood. The heavy rings could have been gathered here with the intention of re-use elsewhere, or else for carrying away - which never happened. There are other things, too, which were never retrieved. An example is the caches of metal and jewelry found in the Late levels of Mohenjo-daro, hidden under house floors. Rissman (11) found that they contained artifacts of a different range than did Harappan graves. He contrasts their secret nature with the social or public act of burying particular objects with the dead. In our context, however, the house caches are significant because they speak of insecurity. In large numbers such hoards indicate times of uncertainty, political instability, and fear of internal clashes or raids on a settlement. For example, when, during the early eighteenth century the Mughal empire began to decline and its systems of communication, tax collection and security began to break down, with the westerly maritime trade reaching a glut, and Maratha attacks on Gujarat had begun, the commercial life of Surat collapsed. An Englishman, writing in 1701, commented: 'The town being bare of silver is occasioned by peoples fears of the aged and infirm Emperor's [Aurangzeb's] death; they abscond and bury what they have to avoid the ravages they dread.' (12). Similar examples are found in 1947, when the departing Muslims in East Punjab and the Hindus and Sikhs in West Punjab buried their jewelry in the ground, hoping to retrieve it when things were somewhat settled down - of course, it did not happen.

Of the five largest hoards of valuables in Mohenjo-daro, four belong to the Late levels (11). They are rich collections of bronze and silver containers and personal ornaments of gold, silver, bronze and various semi-precious stones. Three smaller caches were found (containing bronze bangles, chisels, figurines and various tools and vessels) in a fairly restricted area of DK-G North, in Blocks 14 and 15. One of the richest hoards lay in a small building in the DK-E area and is remarkable for its exceptionally long carnelian beads (each, about 12 cm long) strung with Dshaped terminals of bronze, small round bronze beads and six-holed bronze spacers; gold ear studs with granulated decoration around the edge; and two large gold needles (up to 6 cm long) with eyes in their pointed ends - for either tapestry work or wearing in the hair. Many more pieces of silver and gold jewelry occurred in this treasure.

An additional glimpse of drama is provided by a number of vandalized stone statues. In HRA Block 1 was a house with a large courtyard in which a tree guard still stands. This feature and the double entrance and two wide flights of steps made Wheeler think of a temple. In the courtyard were found faience and alabaster artifacts as well as a seal. This was, therefore, obviously a wealthy person's residence. Jansen (30) reports that 98 per cent of the 600 small finds from this structure were prestigious items, including 15 seals with the unicorn emblems. Near the western flight of steps in courtyard 10 occurred a headless statue of alabaster; part of the head was subsequently found in South Lane; and four days later the remainder of the statue showed up in courtyard 34 in another building to the North. The extant height of this reconstructed portrait of a seated male is about 42 cm.

Stone statuary is rare at Harappan sites. When it occurs, it portrays either men or pedestaled figures of animals, but never women. The style is always formal and formulaic; about a dozen such pieces occur in Mohenjo-daro, one at Dholavira, and none elsewhere. Most, if not all, the statues were desecrated (broken) in antiquity. In fact another head (HR 910), in limestone and with the hair and features exceptionally schematically rendered, lay in room 14 of the HR-A house I, but there is no

stratigraphic connexion between the two. Ratnagar thinks that these are portraits of a royal lineage, because of their material, rarity, and formal or monumental style. We have as yet found no temples that would indicate that idols of deities were made. There could have been a rebellion or a major dynastic upheaval, during which the royal portraits were viciously demolished. (Consider also the 'Priest King' and the damage to its torso, face and arms). The head dress, falling in two strands down the back of the head, is like that of the reconstructed seated statue from HR-A found in House I. The 'Priest King' statue had fallen, together with a wall, into a narrow passage in a shoddily built, Late period, quarter of the DKB area.

Even those who doubt that these stone sculptures carry political significance would at least concede a religious or symbolic significance to the four stone figures of seated animals from different parts of Mohenjo-daro, and the fact that these, too, were vandalized in antiquity and none was found in its original context. A couple of these were monolithic, the animal carved one with the rectangular pedestal below. The use of stone, the 10-cm high pedestals, the extant height (about 25 cm), the bent left hind leg hidden beneath the haunches, and the weird ridged 'trunk' of one of the animals point to a ritual or highly symbolic context (13).

The impression we gain of intense enmity and hatred abroad becomes relevant when we consider the controversial skeletons left behind in Mohenjo-daro. No cemetery has been found at this site, such as at Harappa, Surkotada, Kalibangan or Lothal, but it is reasonable to assert that in the Harappan region a regular mode of disposal of the dead was burial in cemeteries, or sometimes fractional burial of cremated remains under house floors. Intramural burial in the habitation area is, in the Harappan context, a freak occurrence and practically confined to Mohenjo-daro, with one exception at Harappa. At school we were brought up on the skeletons in the Mohenjo-daro streets, under house floors, and in well rooms. For Wheeler they became evidence of the invasion *[sic]* of the Aryans. In 1961 Dales had, however, sounded a caution. Dales argued that such skeletons were too few in number to amount to what Wheeler had called a massacre by the Aryans. There were no burials in the citadel, Dales pointed out, where we would expect the last defense of the city to have been conducted and the skeletons do not all date to the same stratum or phase in the life of the city. Kennedy (14), in his inimitable style, reported that two of the skulls did carry marks of injury, but that 'the recipients of thumps on the head had survived this outrage by several months'. One cannot argue with this, but as Ratnagar objects: ‘we do not throw out the political significance of these skeletons just because the Aryan connexion is dubious. The fact that they do not amount to a massacre does not rule out conflict, strife, or raids on the city in the last days of its occupation” (*1*). Let us survey the evidence.

In the famous Deadman Lane in HR-A, Block I, which is a narrow lane about 1.5 m across, and turns west into First Street, a major thoroughfare, lay the partial remains of an adult male. In the VS area, house XVIII appears to have been a building of some importance, yielding some finely painted pottery and a few seals, plus three talismanic copper tablets. In the wide lane 4, west of this structure, were found six skeletons in various postures, one being that of a child. Over the legs of one and the torso of an other lay the partial skeleton of an unidentified animal, the juxtaposition probably fortuitous. The excavators inferred that the skeletons had been interred here after the house had ceased to be occupied; this was not a regular burial, but one that followed a sudden raid or severe epidemic (12) .

In an unusually well constructed and probably not ordinary house (DK-G South, Block 8 A) dating to the very last occupation of Mohenjo-daro (15), is a well room. On the steps lay two skeletons, one of them of a young woman, found where they had died. The skull of the other lies between its legs, as if the man had fallen over backwards and died. In Low Lane also there are two skulls - the rest of the remains presumably devoured by animals. Mackay was convinced that the four were murdered and that this event had occurred during the terminal occupation of Mohenjo-daro (rather than after it had

been deserted): the well room, he said, was 'in actual use when the tragedy took place' (15).
Then there is a group of nine skeletons in another spot (DK-G South, Block 10 A), all in 'strangely contorted attitudes and crowded together'. One girl child wears an ivory comb in her hair and a thick copper bangle. In all there are five children, one 12-14 year old possibly decapitated (15), three men, and possibly one woman. The bones being all present, it was inferred that the bodies had been hurriedly buried after the deaths. The skeletons lie on ruined masonry of the Intermediate III period, probably a spot unoccupied since the commencement of the Late period. Two elephant tusks were also buried there, one of these a magnificent piece more than a meter long. Mackay, therefore, thought that this was the death of a family who 'tried to escape from the city with their belongings at the time of a raid' but were killed near the city periphery. Possibly they were ivory carvers, and their enemies who killed them either did not value ivory or did not know how to carve it.
In HR-B area (Block 2) house V, again a prosperous establishment, in a small room, no. 74, occurred fourteen skeletons, one with a girdle of 75 faience beads, two with shell bangles, one person wearing three bronze bangles, and so on. They were rich people. The bones of the different individuals were found jumbled together and according to Marshall this mass death occurred in the Late period, a period from when structures have not survived, so that the top of the pit dug for the burial is also missing. House V was not occupied when the burial was made. Hargreaves, who excavated this locality, however, believed that the fourteen skeletons are 'posterior to the abandonment of the latest city'. In a deep sounding at the western edge of the HR residential area in the south of the city, Dales came on five skeletons of the latest phase of occupation (12).They lay in a stratum of debris, broken brick and silt, nowhere near a floor or street surface. Actually, the bones lay on top of sherds of the 'Jhukar' type. This is a late pottery, believed by some to be post-Harappan in date. Dales concluded that the burial dated to a time after the major abandonment of Mohenjo-daro, a short terminal spell when the few remaining inhabitants were using Jhukar type pottery.
In a deep sounding at the western edge of the HR residential area in the south of the city, Dales came on five skeletons of the latest phase of occupation (16). They lay in a stratum of debris, broken brick and silt, nowhere near a floor or street surface. Actually, the bones lay on tip of sherds of the Jhukar type. This is a late pottery, believed by some to be the post-Harappan in date. Dales concluded that the burial dated to a time after the major abandonment of mohenjodaro, a short terminal spell when the few remaining inhabitants were using Jhukar type pottery. To recapitulate, these burials are significant because they do not follow the prevalent modes of disposal of the dead; most were intramural burials - in one instance bodies actually lay unburied on stairs - although the latest houses below which they were deposited have not survived in every case. There are no grave goods for the afterlife with these bodies; as stated, the kinds of ornaments occurring with them are not the sort routinely found in Harappan graves; these people appear to have been buried in whatever they were wearing at the time of death. It is also significant that one person was decapitated and that among these group burials, children occur (1). When we dip into the Mesopotamian genre of ‘lamentation poetry that mourns the destruction or desertion of cities, we get a glimpse of what political conflict entails. Akkade was the capital of the emperors Sargon to Naram Sin from roughly 2370 to 2100 BC. Referring to Akkade, a poet laments: its ‘royalty was not to occupy a good, steady seat’. Hill tribes of Zagreb to the east had destroyed the city and the hill men are described wit the utmost contemt: ‘of human face, dog’s cunning, monkey’s build, ‘ nothing escapeed their hands’. Of immediate relevance to our context are lines about the last days of this Mesopotamian city: “He who lay down ill on the roof, died on the roof. He who lay down ill in the house was not burierd. The people from their hunger were coming to blows among themselves.... Dogs banded together in silent streets. Finally, “the fix of the ruined mounds swept its tail over the consecrated place of ritual hand washing (17).
Harappa: The evidence from Harappa presents similar scenario (1). Here too the uppermost strata on

mounds AB and F have scanty building remains, and those still extant were constructed of brickbats. Later excavations (18,19) distinguish a Late period within which the lowest stratum shows unprepared walls, non-functioning drains, and animal skeletons in the streets. This was, however, followed by a phase of rebuilding and repair. In the uppermost level, scored goblets are abundantly found; there are encroachments on to the streets, and extensive brick robbing. Later period (Period 4) on mound E and Ab is identified by meadow and Kenya as transitional between the Hsarappan and Cemetery H culture of Period 5 when peole using a totally different kind of pottery buried their dead in the old cemetery of Harappa. The articultyral remains of levels 4 and 5 are scant and those that occur are structures utilizing assorted sizes of bricks.
In Late levels on mound F, Vats found a cache of bronze tools and unfinished bronze artifacts. A very rich hoard of jewelry has also been found buried under the floor of one of the socalled 'workmen's quarters', perhaps dug in from a higher stratum. A figure-of-eight shaped silver plate brooch which has 3 gold strips soldered on it, bent into the appropriate shape, is included in this treasure. Rows of miniature steatite beads, capped with gold, fill the spaces. There were also a large number of gold beads and a conical cap and carnelian beads in this hoard. On the edge of mound F was found a mass of ash with partly burned human bones, as well as a quantity of stone mortars and pestles.
Few scholars give importance to a find in area G of Harappa. Here the uppermost stratum produced the usual Harappan material. A pit dug about 1.5 m below the surface contained 20 skulls and 10 mandibles, miscellaneous human bones, 11 scored goblets, other pottery, and a headless skeleton. The skeletal remains represent 6 children, 9 men, and 4 women among others. Vats suggested that this burial followed a massacre, accident, or epidemic. The last appears improbable as the skeletons are incomplete and the skulls disproportionately many. The pottery in the pit (and there are no personal ornaments) indicates that some kind of ritual was followed in the burial. Interestingly, the material found in area G could represent a phase intermediate between the Harappan and Cemetery H periods (20). *Other Cities:* The evidence from other cities and towns is not as extensive, but is telling in its own way. In southern Sind, Amri lies in the zone where the hills of Sind Kohistan abut on to the west bank of the Indus, and Chanhu-daro 15 km east. At Chanhu-daro you do not see the enormously high walls of Mohenjo-daro because people did not raise new walls over standing ones in a continuous process as at Mohenjo-daro. This is probably significant. There are three Mature Harappan building levels and level II and I structures show completely different wall alignments and orientations to those beneath them. There were junctures when parts, at least, of the town were left unoccupied. For example, between II and III there is a 4-foot layer of rubbish, dust, rubble and potsherds. How long such abandonments lasted we cannot tell, but they were long enough for structures to decay. These abandonments of Chanhu-daro require further thought than has been given to the history of the town, even if they were for short spells. Together with this comes evidence from Chanhu-daro of metal hoards or collections and numerous unfinished manufactures such as saddle querns, maceheads, and shell artifacts (21).
In the uppermost Harappan stratum it appears that Harappan houses were occupied by people who used Jhukar pottery, ornamental bronze pins, a socketed axe, and a bronze cosmetic jar, all of which are probably alien to the Harappan repertoire. This occupation was succeeded, on Mound II, after a sterile layer, by the Jhukar culture layer in which houses were made of Harappan bricks, often one-roomed and w i t h characteristic brick-on-edge fireplaces, and large numbers of bone awls for mat making. The Jhukar occupation is limited in extent: on Mound I, for example, Mackay found very few Jhukar sherds and says “these could have been left there by casual visitors”.
Mughal and Dales were convinced that the Jhukar is only a late developed ceramic tradition and not the sign of a new culture in Sind, leave alone the remains of intrusive Aryans (16,22,24). Mughal argued that at the site of Jhukar, 27 km north-west of Mohenjo-daro, Mature Harappan pottery was

present in all three phases and was associated with Jhukar pottery, which means that it was only an evolving ceramic tradition. Possehl, too, (25) stressed the absence of stratigraphic breaks between the Harappan and Jhukar pottery strata at the sites in Sind.

Yet the evidence at Chanhu-daro of other artifacts like bone awls, fireplaces, head rests and seals, and a totally different style of habitation have perhaps not been sufficiently appreciated (1). The fact that Mackay found it difficult to isolate Jhukar material from Harappan was because standing Harappan structures were occupied, disturbed, and modified - not because one culture grew, little by little, out of the other (1).

In 1979 Casal elaborated on the sequence at his site, Amri (26), with an interesting perspective on the history of the two neighboring settlements of southern Sind. At Amri there were five strata with Harappan material, with a few changes in pottery from one to the next. In the uppermost (level **III** C) of these strata, occurred the pointedbase scored goblet together with Jhukar sherds, brought by intruders, Casal said (26). But this stratum, **III** C, was the only Mature Harappan level with baked brick construction in the Harappan mode, with cubical weights, writing, and an uninscribed seal (26). It has ceramic parallels with Late Mohenjo-daro. Casal therefore believed that Amri was a poor and insignificant settlement to which people of the richer Chanhu-daro had fled (Amri period **III** C); that there had been quick abandonment of Chanhu-daro due to raids, but that hill raiders squatted at Chanhu-daro before moving on to Amri where they mixed with the local people and then went on to Mohenjo-daro and Jhukar (26). Casal associated Jhukar pottery with raiders from Baluchistan because, according to him, this ceramic also occurs at sites like Periano Ghundai; but there is also a similarity between Jhukar pottery and that of pre-Harappan Amri even though Casal saw it as a mixture of Indus and Baluchi elements.

This is an attractive hypothesis although it remains for us to confirm the relative chronology of the two settlements, and although Amri would be a more logical first halt than Chanhu-daro for raiders from the Kohistan. At Amri, too, we have seen that the 'hill raiders' apparently did not construct many durable structures - in fact much Jhukar Period construction must have been damaged when the Islamic fort was constructed on the mound - but the quantity of Jhukar pottery in level **III** D sustains the argument against a picnic or week-end camp of casual visitors.

Coming to the eastern front, there appear to have been disastrous events at Surkotada in the late period of occupation. Between IB and IC levels, IC being the last, there is a thick though uneven layer (30 cm thick on the citadel mound, 70 cm in the residential area) of ash, the sign of 'a huge conflagration' (39), in all parts of the site. Perhaps this was not a natural fire, for during the next period, IC, the citadel defenses were made truly secure. The gateway complex was rebuilt as a strongly guarded and restricted entrance system. Incidentally, IC was a shallow stratum less than a meter in depth whereas IA was in places 4.4 m thick. There are about half a dozen minor jewelry caches in IC, four of them in buried pots. Some new kinds of painted pottery appears. The last occupation of Banawali in district Hissar, period III, called 'the Banawali-Bara' culture by Bisht (27) and which caps the Harappan, consists of three building levels totalling only half a metre of deposit, construction being in *pise*. There is a local pottery which, significantly, is found only 'in the eastern quarter, outside the walled town of the Harappans' (27). On the main mound this pottery occurs 'only in pits and kilns dug into the Indus deposit' (27). This, then, is a parallel to the intrusive nature of the Cemetery H culture at Harappa. As for Dholavira, the magnificent site on Khadir Island in the Rann of Kutch, the last three strata, V to VII, represent a general decline, punctuated by a short desertion of part, at least, of the settlement. These levels see new ceramics, a shrinking of the inhabited area, jerrybuilt structures, and, finally in stage VII, before abandonment, round one-room houses.

The cities on the Indus were abandoned not because that rivers were drying up - though they are prone to devastating floods and changes of course - but because the society of which they were the

foci changed its distribution and density and thus broke with tradition. Material production in the relocated villages could continue essentially as before, but overall social reproduction was profoundly affected and would need new structures. Of course, re-adaptation could be effected only on the basis of what went before (1).

Migrations: While discussing town and village desertions, we had ruled out population extinctions. In this context, the important factor is that desertions of settlements can be due to the migration rather than the death of the inhabitants concerned. Let us now think about group migrations at the end of the Harappan period. Here again, we follow Ratnagar (1).

Harappan sites that have survived best are those along the Hakra system in Cholistan, identified by some as the lowest reaches of the Ghaggar-Hakra river system. Because the Ghaggar-Hakra system became practically defunct some time in the second millennium BC, the deserted mounds along its lowest stretch were not subjected to repeated river floods or erosion. The field surveys by Mughal located 174 Harappan villages, towns, camps, and brick- or potteryfiring sites, among them 83 habitation sites (villages as well as towns). In the succeeding Cemetery H period there were 50 sites north and Northeast of the medieval Derawar Fort, 28 of them habitation sites with or without kilns or manufactures. While in the Mature Harappan period 9 or 10 sites (6 per cent) were camps, presumably of animal herders, in the subsequent period 13 sites (26 per cent of the total) represent camps. The largest site of the Harappan period (Ganweriwala Ther) in this tract was about 41 hectares; in the next period the largest site in this subregion, Kudwala, was 38 hectares. From Mughal's raw data (28) it can be calculated that the total settled area in this tract fell from well over 450 ha in the Harappan period to 233 ha which was less than half the previous settled area. Thus while Mughal (22) sees continuity, for example in the four-tier settlement hierarchy of the region, Ratnagar places more emphasis on discontinuity. Also, 38 ha for the largest Cemetery H site may not be much less than the 41-ha size of Harappan Ganweriwala, but it is by no means comparable to the sizes of Harappa and Mohenjo-daro (125 ha each, if not more).

In this region the settled population declined and it is likely that the proportion of mobile pastoralists rose, but further upstream, in the Divide, the number of villages increased after the Harappan period. Suraj Bhan's surveys (29) revealed that there were 86 Mitathal II B sites in the upper Divide, which contrasts with about 58 ‘Mature Harappan’ and local Siswal culture settlements of the earlier period (31). If we follow Shaffer's figures (30), perhaps the most reliable, we have an increase from 43 Siswal A-B and Harappan sites to 127 Siswal C-D sites. The later Siswal culture at Mitathal II B saw the merging of the two ceramic traditions. Local technological traditions included storage in pits of depth between 1 and 2 m lined with chaff-tempered clay; faience and terracotta bangles; and thin-walled mud or mud brick houses.

Site counts in different regions for the Harappan and subsequent periods give us strong grounds for arguing that communities moved and relocated, usually to villages that were smaller than before (1). Such a phenomenon is not unique to the Harappan period or to the Indus region. In the ancient world, during military attacks or political crises or agricultural calamities, village communities dispersed and took to hunting-gathering, or sheep-and-goat herding, or small-scale subsistence agriculture elsewhere (32). There would have been an accompanying change in the structure of labor, as families were thrown back on their own resources. Moreover, relocated groups, being initially small, leave scant archaeological trace, as has been observed by Sandars (33) in context of the collapse of the Bronze Age of western Asia and the eastern Mediterranean. Hence we can expect a large proportion of a dispersed population to remain, initially at least, invisible in the site record (1). In the Harappan case a major reason for migration up the Indo-Gangetic Divide could have been the progressive drying up of the Hakra and its upper section known as the Ghaggar system in India; as Misra (34) has argued so convincingly, small streams from the Sivaliks which fed this system were captured by the

Sutlej in some cases and by the Jumna in others. Mughal (35) claims that the tract occupied by Cemetery H sites in Cholistan, stretching between Fort Drawer and Yazman, was fed by a south-flowing offshoot of the Sutlej, joining the Hakra near Yazman. It is important to note that in the Mughal period the combined Jhelum, Chenab and Ravi rivers joined the Indus at Uchh while the combined Beas and Sutlej fed the Indus further downstream (36). Ratnagar (1) wants to emphasize that hydrological factors may have prompted migrations, but this does not mean that they were a 'cause' of the collapse. We distinguish 'cause' from 'enabling factor' and from 'trigger' or 'precipitating factor', and these in turn from 'symptom'. Largescale migrations, it would be reasonable to assert in the current state of knowledge, were probably a symptom of the collapse of social institutions or a result of depletion of vital resources. In southern Mesopotamia there was, around 2000-1800 Bc, an agricultural crisis of some magnitude involving a rise in some tracts of soil salinity which led to falls in yield (23). Furthermore, political fragmentation and a westward shift of the Euphrates which must have left much hitherto fertile land uncultivable, must have played their roles. The immigrations of Amorite tribes from the western deserts was another potent factor. These factors could have been responsible for an overall, pan sumer, decline in total settled area from about 2,725 ha before 2000 BC to about 1791 ha by 1650 BC (20). However, it is well known that the shrinkage or abandonment of urban centers in the south, and the paucity of written material in the period following about 1750 BC does not amunt to the collapse of the Mesopotamian civilization. The fact that Harappan settlements were deserted not only in the Hakra stretch but in Makran, Kutch, Sinsh and southern Punjab also, prompts us to conclude that hydrological factors were not the only cause even of abandonment and migration. As discussed in Chapter 7, it appears that it was the unraveling of the sociopolitical web which had tied the Harappan Civilization for so many centuries. The migration was one of the result of this social and political upheaval.

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Chapter 5

Late Harappan Occupation



Late Harappan Period dish or lid with perforation at edge for hanging or attaching to large jar. It shows a Blackbuck antelope with trefoil design made of combined circle-and-dot motifs, possibly representing stars. It is associated with burial pottery of the Cemetery H period, dating after 1900 BC.

Adjacent large burial urn with ledged rim for holding a bowl-shaped lid. The painted panel around the shoulder of the vessel depicts flying peacocks with sun or star motifs and wavy lines that may represent water. Cemetery H period, after 1900 BC. These new pottery styles seem to have been introduced at the very end of the Harappan Period. The transitional phase (Period 4) at Harappa has begun to yield richly diverse material remains suggesting a period of considerable dynamism as socio - cultural traditions became realigned.

The Indus civilization flourished for about five hundred years, in some places as long as seven hundred years. In the early second millennium BC it started wilting and eventually came to an end. This process was marked by a rapid disappearance of the features that had distinguished the Harappan Civilization from its predecessor cultures: writing, city dwelling, some kind of political structure, regional and international trade, occupational specialization, and widely distributed standardized artifacts.

Early in the second millennium BC, by about 1800-1900 BC, the city of Harappa was no longer a functioning urban center. It shrank to a small hamlet of jerry-rigged houses built with bricks and bats picked up from the deteriorating houses of the Mature Hardpans. As shown in the last chapter, the last period of occupation of Mohenjo-daro shows a similar decline in material culture; a sharp decrease in civic standards, with poorly constructed houses, pottery kilns in what had previously been residential areas, the neglect of civic amenities such as drains, and corpses thrown into abandoned houses or streets instead of being buried with due rites. Important public buildings such as the Great Bath went out of use.

A similar situation is known in other cities and towns, some of them deteriorated beyond recognition and some of them were abandoned altogether. The core area saw a massive reduction in the density of settlement. Urbanization took a hit and throughout the greater Indus region the majority of settlements were villages and campsites, with few small towns. The use of only local materials in the fabrication of objects, like stone tools, is evident all around. The cultural uniformity of the Indus Tradition gave way to a number of regional groupings, often using material reminiscent of that belonging to the pre-urban phase in each area.

Gone were the square seals, gone was the script, and gone was the Indus style in pottery form and decoration. Writing was no longer in use, though occasionally signs were scratched as graffiti on pottery. Cubical weights became rare or ceased to be used, indicating that metrical controls were no

longer needed. Shells from the coastal regions no longer made their way to the northern sites, and lapis lazuli from the North failed to reach the sites in the plains and long cylindrical carnelian beads and sturdy red pottery in a set of recognizable shapes cease to appear in the archaeological record of the centuries around 1900 and 1700 BC. In Mesopotamia the texts that had recorded ongoing trade with a region called Meluhha, which is most probably the Indus Valley, no longer mentioned it. There was considerable depopulation in the Indus heartland but settlements increased in number in Gujarat, and other communities were established in areas well outside those occupied by the Harappan people, particularly in the East. This indicates an eastward migration of the populace.

The disintegration of the urban culture means the end of an integrated and complex social, economic and political system, carrying with it a decline in social stratification, erosion of economic specialization, the eclipse of regulatory institutions and the flow of information, the city life that embodies the sophistication of the civilization, and, ultimately, what Tainter calls (39) the epiphenomena: the public monuments and art production. Paradoxically, it is often these 'epiphenomena' by which ancient civilizations are known to us, and it is their disappearance in the archaeological record which we miss with civilizational collapse (1). Clearly, the Harappan Civilization, as a complex socioeconomic system, was unraveling and the urban centers were plunging into a state of chaos.

This phase of the Harappan Civilization is a period of transition - a transition from the urban to the non-Harappan cultures - and hence difficult to define precisely in cultural or chronological terms. But the broader outlines are clear and the overall picture is not as fuzzy as it has often been portrayed. The present chapter deals with this topic in some essential details, the non-urban cultures that replaced the urban centers of the Harappan Civilization after this transition will be discussed separately in the next chapter.

The speculation on the causes of the decay and demise of the Harappan Civilization - asking the question: What happened and why - is an interesting exercise. Related to these speculations is the research on the legacy of the Indus Age and its shadow on the subsequent cultural development within Pakistan and the peripheries in the present day India on one hand and Afghanistan and Iran on the other. These topics, bordering on theory and the abstract, are to be revisited in separate chapters of this book; here we want to address only the changes in the material culture at the final stages of the Harappan Civilization.

As the Indus Civilizations as a whole was decaying and the Harappan cities were being transformed into squatters' abode, we detect the encroachment of some alien peoples on the western front of Pakistan, notably in parts of Baluchistan and the Pashtun country, even up to the Pothwar region. We shall briefly refer to this aspect of cultural change here, deferring a detailed discussion to Chapter 6 and 7.

The Problem of Definition and Terminology: There is much confusion in the terminology for the terminal phase of the Harappan Civilization and its aftermath. Two terms are most commonly used: the *Late Harappan* and the *post-Harappan*. Possehl has introduced the term *post-urban* to describe the decay and demise of the Harappan Civilization while Shaffer employed the term 'Localization Era' referring to what he perceived to have been the breakdown of the centralized authority into a series of local, regional patterns. This diversification in terminology is probably the result of different conceptual approaches of the scholars. The *Post-urban*, originally coined by Possehl in 1977 (3) and

then borrowed by Allchin (4), implies a stage or level in the process of cultural change that became apparent after the climax of the Indus Civilization. It is an interpretative term in content to distinguish the later stage of the Harappan socio-cultural development which followed the 'urban' stage (Mature Harappan). The term *localization era* implies the transformation of a unified Indus culture into several localized cultures, in continuity of the Harappan tradition. In contrast, the *Late*- and *post*-Harappan make distinction between the terminal stage of the Harappan Civilization and the resulting cultures in the aftermath. They imply the end of a cultural phase and the beginning of a new tradition.

Late Harappan is a neutral term because it does not impose interpretive or conceptual bias. This terminology has been widely used and understood very well by the scholars of South Asian archaeology since its first use by Majumdar. It expresses a chronological position of 'late' Harappan material, it implies a cultural continuity with its antecedent culture, and at the same time refers to specific character of the materials. An essential characteristics of this period is its transitional nature and this aspect has been stressed by almost every archaeologist. For example, Gupta states that the Late Harappan is the result of the breakdown of the urban fabric of the Harappan Civilization and, therefore, represents a stage of readjustment from an urban system to a rural setting "without losing its basic ethos" (5). Chitalwala remarks that the existence of both cognate and extraneous cultural strains which are easily identifiable and have not metamorphosed into a wholly new cultural entity showing Harappan affinity even in its barest outlines could be regarded as Late Harappan (6). On similar lines, B.B. Lal has tried to define the term Late Harappan as a culture which has transformed itself from the Mature Harappan, while losing some of the latter's traits and evolving some new ones, but "still identifiable as having been derived from the latter" (7).

From the decline of the Harappan urbanism to the growth of second urbanism there is plentiful evidence of some regional cultures, frequently referred to as 'Chalcolithic' or 'NeolithicChalcolithic' in almost every report in India. Scholars in Pakistan generally refer to this period as post-Harapan in order to avoid the confusion with the 'chalcolithic' settlement in the pre-urban times. This period is dated from *ca*. 1700 to 500 BC, and represents an increasing pace of development towards new cultural groupings.

Unfortunately, this distinction has not been maintained by some archaeologists in India. Sites of non-Harappan cultures in the Divide and Gujarat are routinely categorized as the LateHarappan. Ideally, the Late Harappan should be used to describe the transition from the urban phase to a non-urban cultural complex and the post-Harappan should be used for the non-urban cultures that followed the end of the Harappan Civilization. This distinction has not always been maintained.

For the sake of the present discussion, we shall simply stick to the original concept of Majumdar and Mackay and define the Late Harappan as the "final phase of the Harappan Civilization", a transitory phase when the Harappan material culture was in the evident decline and was being submerged under the traits of new cultures or under the degenerated Harappan ones. This loose definition is, of course, open to criticism; for example, at what level of Harappan material culture would a site be declared a candidate for post-Harappan as opposed to "Late Harappan", or, is the Cemetery H culture at Harappa a Late Harappan or post-Harappan? Let it be, what it wants to be; and let us be content with a running definition that there was an urban culture (the Mature Harappan Civilization) and there was the time when the characteristics of this civilization were nowhere to be seen. Let us call this the post-Harappan period. Now, conceptually, there must be a transition between the two. We call this transition the Late Harappan - the final phase of the Harappan Civilization.

indicates that there was still considerable interregional communication, and movements of indi

We should, however, be cautious in using
Indus cities, although a small settlement remained at viduals and groups both within the Indus Valley regions, notably in the East and to a lesser degree in these term, especially the Late Harappan. As and between it and the regions to its north and
Harappa—the so-called Cemetery H people. Older Saurashtra (present-day Gujarat), the history of the Ratnagar has warned us (8), “Late Harappan” is a the west continued. There seems to be an in treacherous category”. There is also a secondtheories, which hold that the cities and civilization creasing amount of contacts between the Indus culture change was different. In these areas there were precautionary note: archaeological literature most Valley and the area to its East - a region that was were destroyed by invading Aryan tribes (as depicted strong lines of continuity through the early centuries
often includes all cultures that succeeded the only peripheral to the Indus people so far. Al
Harappan
in
the
Punjab,
Gujarat,
Sindh,
and
in the Rig Veda), make very little sense since there of the second millennium with little, if any, of the though the manufacture of finely crafted square
Baluchistan as though there was one discreteis no evidence for the sacking of any of the Indus seals ceased altogether, the fabricating of crudely trauma that affected Sind and Baluchistan. The stark Late-Harappan culture that replaced the Harapmade round seals continued. So was the case settlements. Also, the date of the transformation of image of Baluchistan in the second millennium repre
pan. Actually these were several cultures, quite with lapidary and bead making, and apparently the Indus civilization around 2100–1900
distinct from each other, and having varying rela
tionships with the disappearing Harappan tradi BCE) don’t agree.
BCE and the faience objects.sents a clear challenge for field archaeology, because
During the Mature Harappan there is a
it does not seem reasonable to presume that the entire tion.
the date of the Vedic texts (c. 1000
The proposition that a natural dam formed across the
sense that we are dealing with a single cultural
area was deserted at that time. **The Terminal Stage of Harappan Urban**entity. By the early second millennium, this is no
ism:
Indus River in Sind and flooded out the civilization longer the case. As the Harappan material cultureScholars have proposed that the process respon
The historical processes impinging on
Harappan
life
in
the

early
second
millennium
has been widely critiqued and is not viable.
starts to disintegrate, the Indus region seems to

Harappan Civilization - The Material Culture sible for transforming this once grand civilization were, evidently, complex, varied and paced at be break up into a series of stylistic zones. The So was the case with lapidary and bead making, of the areas already under cultivation and opened
It is apparent from the excavations at urban centers involved changes in the Indus ideology, possibly its
different times in different regions and in their inup new areas for productive agriculture.archaeological record of Indian Punjab, Haryana and apparently the faience objects.

terrelated totality, they had a stunning effect onas well as from regional surveys that at the opening abandonment. For example, one of the clearer loci of
As the Harappan material culture starts to
the Indus people. What had once been an ancient
Apart from a general civilizational decay in
tive stylistic zone which is quite different and idenof the second millennium Indus settlements in Sind disintegrate, the Indus region seems to break up large cities and towns, there is also a widespread culture change was in the cities, those settlements and
urban system, was much altered in terms of the depopulation and demographic realignment in thetifiable vis-a-vis the so-called Cemetery H material
into a series of stylistic zones. That is, during the
and Baluchistan had been widely abandoned. Table from Harappa and theinstitutions most closely associated with sociocultural
complexity of organization. The major urban cen
Mature Harappan there is a sense that we are deal
Cholistan/Bahawalpur

ters were no longer functioning, or only poorly 1 provides a summary by region of the substantive area. Sindh is, in turn, culturally identifiable as complexity. There, craftsmen’s technological virtuosfunctioning, as organized cities. The large differsurveys that at the opening of the second millenanother stylistic unit and so is the differentiated entiated

data comparing Indus civilization and the period folnium BC Indus settlements in Sind, Punjab, andity was severely compromised, and the obvious traces settlements, such asnium, this is no longer the case. The archaeologicaland material of this period in Gujarat. An interesting,
Mohenjo-daro, broke down into 'squats'; wherelowing the transformation, generally called the Indus and yet to be understood pattern in all this is thatof the symbolic uses of water disappear. But in some public architecture, workshops andPradesh forms a rather distinctive stylistic zonepost-urban civilization. domestic
which is quite different and identifiable vis-a-vis the
quarters were clearly demarcated; they are no
the boundaries which emerge in this period are
the Divide this depopulation is not obvious although

places the transformation of Indus civilization was
even here the average size of the settlement is quite similar to those which were apparent in the
so-called Cemetery H material from Harappa and drastically decreased.
The figures in table 1 would seem to indicate that
ciety, however, remained in view. While sea tradeit is still viable to speak of the "eclipse of the Indus
the so-called Early Harappan cultures.
now hardly existed, the wide distribution of many

differentiated material of this period in Gujarat. An
cultural elements (such as features of ceramic
interesting, and yet to be understood pattern in all
form and decoration, and distinctive stamp seals)
this is that the boundaries which emerge in this pe

Table
below
provides a not a traumatic event. Scholars speculate on the rea
longer found. Some vestiges of the Harappan so
period just preceding the full flourishing urban life,
summary by region of the substantive data compar
the Cholistan/Bahawalpur area. Sindh is, in turn, sons for this possible abandonment of Indus ideology, culturally identifiable as a stylistic
unit and so is the ing Harappan Civilization and the period following civilization" in Sind and Baluchistan, but in other
Apart from a general civilizational decay in
the manifest urban culture. The figures in Tablebut no consensus has yet been reached.

large cities and towns, there is also a widespread would seem to indicate that it is justifiable to speak
depopulation and demographic realignment in the of the eclipse of the Indus Civilization in the whole

Table 1. Comparison of Harappan and Late-Harappan Settlement (*Possehl*) *Indus Civilization and Indus Post-Urban Civilization*

REGION/Period Site Count Average Site Size (in hectares) Settled Area (in hectares)

SIND
Indus civilization Post-urban
CHOLISTAN
Indus civilization Post-urban
BALUCHISTAN Kulli-Quetta /Indus Post-urban
SAURASHTRA
Sorath Indus
Post-urban
EAST
Indus civilization Post-urban
86 8.0 688

6 5.6 34
174 5.6 974 41 5.1 209
129 5.8 748 0 0 0

310 5.4 1,674 198 4.3 815
218 13.5 2,943 853 3.5 2,985

riod are quite similar to those which were apparent93 of the core area, although in the peripheral regions, in the period just preceding the full flourishing urban notably in the Divide and to a lesser degree in Saulife, the so-called Early Harappan cultures. rashtra (present-day Gujarat), the history of the culAt much the same time there were significant ture change was different. In these areas there

agricultural developments. Mature Harappan agriwere strong lines of continuity through the early

tive traits seems to be emerging, namely, Jhukar, Cemetery H, Jhukar, and Gandhara Grave cultures. The map below sketches these areas. The material evidence from each region has been reviewed by M.R.Mughal (14) to highlight the nature and degree of cultural changes. More recently, Shereen Ratnagar (1) has summarized the essential traits of these cultural regions, so did Kenoyer and Possehl. Almost all of these commentators have dealt with this transitional time period in terms of some specific Late Harappan cultures, but we choose to take a regional approach.

The 'Late Harappan' sites have a very broad distribution within the geographical area recorded for Harappan Civilization. Yet the data on the Late Harappan is so limited that only the barest essentials of chronological boundaries and material culture traits are known. Cultural changes distinguish the Late from the Mature Harappan Phase, but the exact nature of these changes and the processes responsible for them are at present unknown. The disappearance of urban centers noted for the Late Harappan is not an assumption, as some archaeologists would

Cemetery H
Jhukar
Kutch

'rural' area of the Harappan Civilization. It is apparent from the excavations as well as from regional surveys that at the opening of the second millennium BC Indus settlements in Sind, Punjab, and Baluchistan had been widely abandoned. Only in the Divide this depopulation is not obvious although even here the average size of the settlement is drastically decreased. Table above provides a summary by region of the substantive data comparing Harappan Civilization and the period following this manifest urban culture. The figures in the Table would seem to indicate that it is justifiable to speak of the eclipse of the Indus Civilization in the whole of the core area, although in the peripheral regions, notably in the Divide and to a lesser degree in Saurashtra (present-day Gujarat), the history of the culture change was different. In these areas there were strong lines of continuity through the early centuries of the second millennium with little, if any, of the trauma that affected the core area of the civilization.

The state level organization of the Indus cities appears to have been entirely disappeared during the Late Harappan period, although claims have been made, on the basis of some tangential evidence from Harappa (9), that a semblance of order continued in parts of Punjab and Sindh. For example, some vestiges of the Harappan society indeed remained in view. There seems to be an increasing amount of contacts between the Indus Valley and the area to its east - a region that was only peripheral to the Indus people so far. Although the manufacture of finely crafted square seals ceased altogether, the fabricating of crudely made round seals continued. So was the case with lapidary and bead making, and apparently the faience objects.

A notable development in the late Harappan phase was the diversification of agriculture. Mature Harappan agriculture had been based on the West Asian group of domesticates, which



were utilized across the huge area from the Indus region to Western Europe: wheat, barley, and pulses, sheep, goat, and cattle. By the late third or very early second millennium, new crops were coming under cultivation in the Indus realms: rice and several varieties of millet were making inroads. These were better suited for cultivation in some parts of Pakistan and India than wheat and barley, and so they both changed the productivity of some of the areas already under cultivation and opened up new areas for productive agriculture. At Pirak in Baluchistan, there was the beginning of double cropping - wheat and barley continued being grown as winter crops and rice (with irrigation), millet, and sorghum as summer crops. In the Kachi plain, there were fairly large settlements, growing a variety of crops, supplemented with irrigation. Rice and millets were found at late Harappan levels at Harappa.

Culturally, three principal areas or regions, (11,12,13), each marked by its own distinc

This map shows the major cultural interaction regions *ca.* 1900-1300 BC: Cemetery H in the north, Jhukar in the south and Rangpur in Gujarat.

claim, but the cultural changes in smaller settlements are less clear. Nevertheless, a regional survey may be useful.

LowerIndusValley: In the Lower Indus Valley, the final stage of the Harappan Civilization is vividly seen at Mohenjodaro and Chanhu-daro, primarily through their architectural remains and stray artifacts. The evidence from other sites, such as Balakot, Allahdino, Lohamjodaro, Jhukar, and Amri, also points to the same direction.

At Mohenjo-daro, the last period of occupation of the city shows a serious decline in civic standards, with poorly constructed houses, pottery kilns in what had previously been residential areas, the neglect of civic amenities such as drains, and corpses thrown into abandoned houses or streets instead of being buried with due rites. Important public buildings such as the Great Bath went out of use. Some stone sculptures were deliberately smashed.

Marshall and Mackay appear to have discovered a cultural discontinuity in the Mohenjodaro sequence: 'the city had been reduced to ruin' between the Intermediate I and Late III phases. The Late period houses showed marked differences from the earlier ones. Those built now had entrances differently placed, with old doorways blocked. Houses in DK-G had been partitioned, as if families were splitting. An entrance could be narrowed down from a width of 1.2 m to less than 60 cm or 2 ft. Clear signs of decay are apparent in the fact that walls are now thin, perhaps no longer bearing the weight of upper stories, with oddsized bricks laid in the most haphazard of ways. The huge residential building or 'Palace' of DK-G area was, in the Late I and II phases, not only subdivided but this locality was transformed into an artisans' quarter. Meanwhile, on the citadel, the Pillared Hall of the Intermediate period, a

A Cemetery-H urn from Cemetery H at Harappa , 1500
beautifully paved structure for which five courses of baked brick, most accurately cut and set, had
The latter include peacocks with a human form drawn in
been used, was in the Late period partitioned by
the middle, and bulls/cows with plant-like attachments to
rough brick walls and utilized at least in part for *shankh*
their horns.
shell cutting work (1).

Mythological motifs on Cemetery-H pottery

The Cemetery-H urns bear naturalistic designs (leaves, trees, stars), but also an interesting series of what seem to be mythological motifs. The latter include peacocks with a human form drawn in the middle, and bulls/cows with plant-like attachments to their horns. In one scene, there are two long-horned animals facing each other, held by a man with long wavy hair; a dog seems to be skipping menacingly behind one of the animals.

These scenes have been interpreted in various ways. Some scholars have tried to connect them with the ideas of death and afterlife in the Vedas. However, all these interpretations remain speculative.



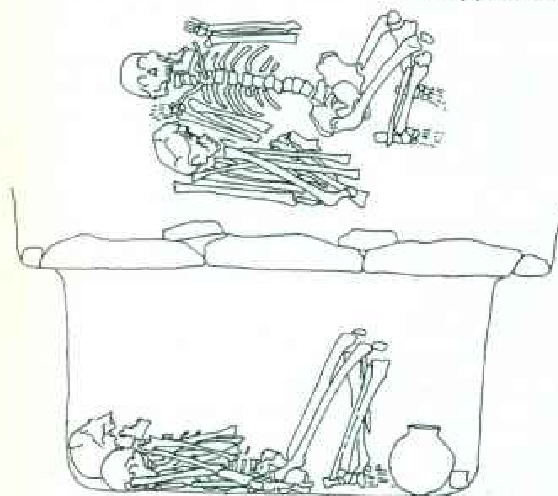


FIGURE 5.2 DESIGNS ON CEMETERY-H POTS

Katelai yielded two burials of horses along with their masters. The grave goods included lots of plain, buff-red, or grey pottery in a range of shapes such as tall goblets, pedestal cups, beakers with flared mouths, and bottles with long and slender necks. Some graves yielded flat, female figurines with appliqué breasts, occasionally with incised eyes and necklaces. There were copper/bronze objects such as pins with decorated tops, and a bronze model of a horse was found at Katelai. Iron objects were rare.

The Ghaligai cave sequence is an important reference point in this area. In this cave, Phases V, VI, and VII correspond to the early, middle, and late phase of the Gandhara Grave culture. Phase V was associated with a number of graves located on the hill-sides. There were **cist** graves made of vertical and horizontal stone slabs. Post-cremation burials outnumbered inhumations. Remains of rectangular stone houses were identified, and many different types of wheel-made pots and copper and bone artefacts were found. In Phase VI, there were more inhumations than post-cremation burials. Copper artefacts continued, and there was a fine wheel-made pottery in many different shapes, including chalices and cup-on-pedestal. Phase VII represented a late phase of the Gandhara Grave culture and yielded wheel-made red pottery and human terracotta figurines. Iron made its appearance. There is a similarity between some of the pottery types of Periods V–VII and those found in parts of central Asia.

FIGURE 5.3 GANDHARA GRAVE CULTURE BURIAL, LOEBANR



In Kashmir, at sites such as Burzahom and Gufkral, the neolithic phase was followed by a megalithic phase. Megaliths are monuments made of large, roughly dressed slabs of stone. At Burzahom, there are massive **menhirs** (single, tall stones) and a large megalithic stone circle. Grey or black burnished ware made way for a coarse red ware. Bone and stone tools typical of the earlier period continued, but in fewer numbers. There were a few metal objects.

At Gufkral, the megalithic phase (Period II) is marked by fallen menhirs, and was represented by a 50–60 cm thick habitational deposit. There was a nearly 10 cm thick floor, running throughout, with a few breaks marked by pits. Many of the latter were refuse pits, going down to natural soil levels, and contained lots of broken pottery and animal bones. The pottery of Period II showed continuity with neolithic Period I and included a burnished grey ware, gritty red ware, and thick dull-red ware, but the proportion of thick dull-red ware and wheel-made pottery



Pointed Base Goblets. These rather carelessly thrown
Pointed Base Goblets. These rather carelessly thrown gobgoblets with scoring under the rim, were common in the
lets with scoring under the rim, were common in the Late
Late Harappan phase of the Indus Civilization at almost
Harappan phase of the Indus Civilization at almost all large
all large settlements, particularly at Harappasettlements, particularly at Harappa
characterized as squatters' abodes. The large dif
An intriguing indicator of social change in
ferentiated
settlements,
the Late Harappan period at Mohenjo-daro is thesuch as Harappa and appearance of the pointed goblet (figure above.Mohenjo-daro, broke down into 'squats'; where pub
lic architecture, workshops and domestic quarters
These were carelessly turned on the wheel, their
were clearly demarcated; they are no longer found.
height varying 7 to 10 cm with a pointed base.
Some vestiges of the Harappan society,
They were not meant to be stood upright on floors
however, remained in view. While sea trade now
or shelves when full. The deep scoring around the

hardly existed, the wide distribution of many cultural shoulder shows that such pots were to be tied elements (such as features of ceramic form and with string in order to be carried around. AIthough decoration, and distinctive stamp seals) indicates present in large numbers at cities like Harappa that there was still considerable interregional communication, andand Mohenjo-daro, and known at Amri, they areof

practically
absent
movements individuals and

in
the
peripheral
towns
groups both within the Indus Valley and between it like and
the
Lothal and Shortughai (1).
regions to its north and the west continued.There seems to be an increasing amount of contacts between the Indus Valley and the area 95to its east - a region that was only peripheral to the Indus people so far. Although the manufacture of finely crafted square seals ceased altogether, the
fabricating of crudely made round seals continued.

In the uppermost Harappan stratum at Chanhu-daro it appears that Harappan houses were occupied by people who used Jhukar pottery (see below), ornamental bronze pins, a socketed axe, and a bronze cosmetic jar, all of which are probably alien to the Harappan repertoire. This occupation was succeeded, on Mound II, after a sterile layer, by the Jhukar culture layer in which houses were made of Harappan bricks, often one-roomed and with characteristic brickon-edge fireplaces, and large numbers of bone awls for mat making. The Jhukar occupation is limited in extent: on Mound I, for example, Mackay found very few Jhukar sherds and these could have been left there by casual visitors.

One does not see the enormously high walls because people did not raise new sections over standing ones in a continuous process as at Mohenjo-daro. This is probably significant. The buildings show completely different wall alignments and orientations to those beneath them. The parts of the town were left unoccupied for some time. For example, between Level II and **III** there is a 4-foot layer of rubbish, dust, rubble and potsherds. How long such abandonments lasted we cannot tell, but they were long enough for structures to decay. These Chanhu-daro require further been given to the history of the town, even if they were for short spells. Together with this comes evidence of metal hoards and numerous unfinished manufactures such as saddle querns, mace-heads, and shell artifacts (1). H. Miller describes the settlement as "haphazard and less focused" during this transitional phase that marks the end of occupation of many sites in the Lower Indus. The square stamp seals are replaced with circular ones bearing new motifs and the terracotta female figurines associated with Indus ideologies and cubical stone weights, both signature artifacts of the civilization, are rare. The Indus script also disappears, save for examples incised on pottery (16).

A similar situation is known in many other cities and towns. During the early second millennium, a number of settlements in Sindh were abandoned, including Balakot, Allahdino, and Mohenjo-daro. Not all sites, however, suffered the same fate: Mohenjodaro petered out, while nearby Jhukar and Lohamjodaro, Chanhudaro and Amri continued and built, although rather poorly, upon the remains of the Harappan. The central region saw a massive reduction in the density of settlement, and the majority of settlements were now villages and campsites, with few small towns. This seems to imply either that emigration from the center to the outer regions occurred or that there were conditions favoring population growth in the peripheries and a demographic crash in the center, or both. We get a general impression that the core of the Indus Civiabandonments of thought than has lization was beginning to break up around this time, coming to an end shortly after.

Jhukar Culture: Some degenerated Harappan traits, particularly pottery, are in view at Mohrenjo-

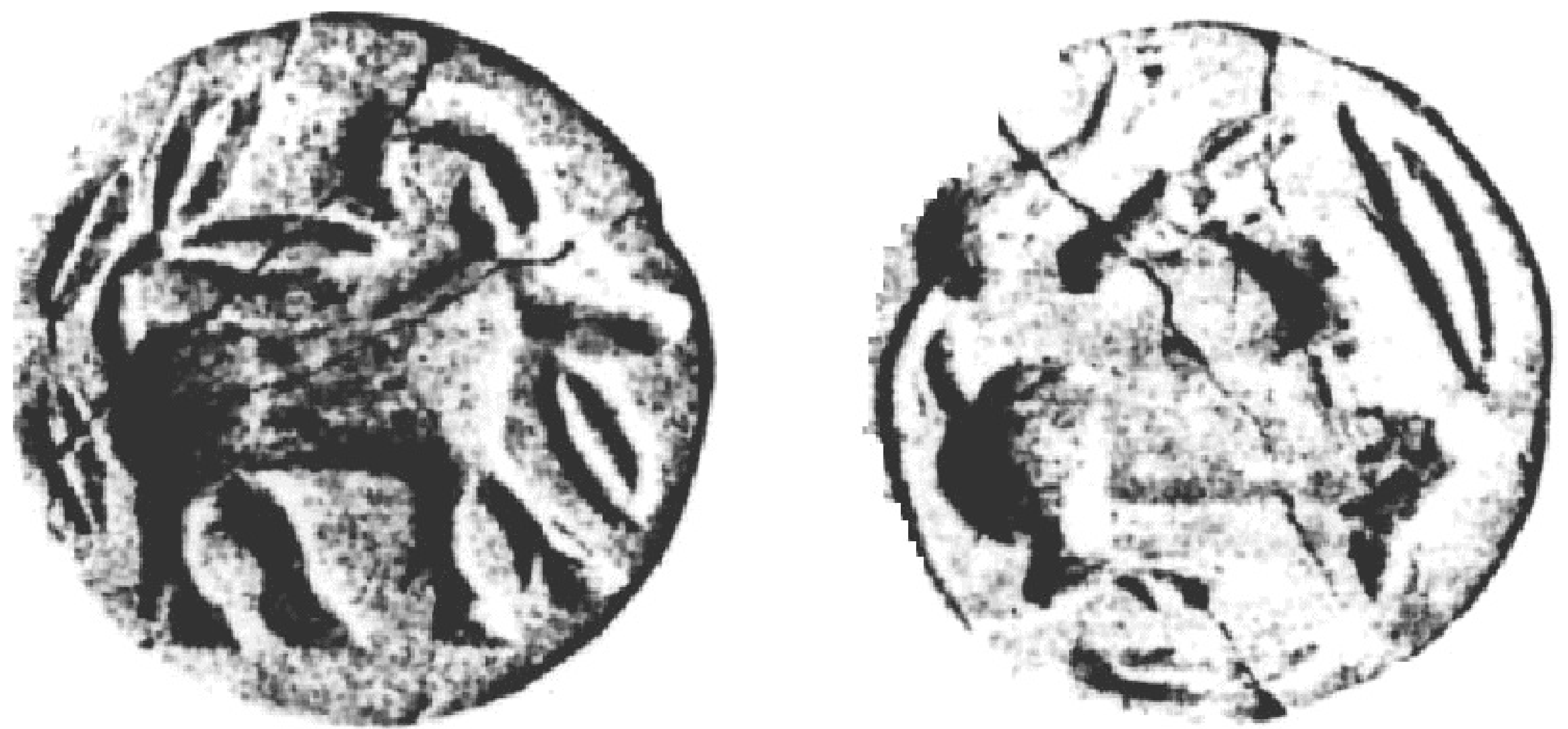
daro, Chanhu-daro, Jhukar, Lohumjodaro, and some other locations during the terminal stage of the Harappan Civilization in Sindh. These elements coexisted with some other traits which were seemingly non-Harappan and probably intrusive. There were compartmented seals, copper dress pins, and a shaft hole ax. Certain copper or bronze weapons and tools are comparable to examples from Iran and Central Asia. Spread over a considerable area of Sindh, this culture is recognized as the Jhukar culture.

The idea of devolution and, therefore, a Late phase of the Harappan Civilization was first expressed by N.G. Majumdar in 1928 at the site of Jhukar and Lohumjo-daro by identifying a pottery type which was in certain ways different from the Mature Harappan. After its first discovery by Majumdar, the elaboration of Jhukar culture came from the excavation of the upper levels of Chanhu-daro by Mackay in 1943 and Amri by Casal in 1964. George F. Dales also reported Jhukar pottery from the upper levels of Mohenjodaro. In early 1970s, Mughal undertook stratigraphic studies and further elaborated the relationship of the Mature Harappan pottery with the new styles.

Jhukar culture is mainly recognized by its assemblage of pottery, which is bichrome. The pots were given a thick slip of cream color and painted in red and black. There is none of the tidiness of Harappan pot painting, nor the artistic value of the Cemetery H painting of the upper Indus region described below. The clay used for the pottery is not particularly fine, and baking in bonfires occasionally left its mark on the surface of a pot. There are cups and a rather unusual straight-sided shallow dish and, a carinated bowl, both on stands. The shapes and motifs on the Jhukar pottery differ from the Harappan styles and there are some innovative technical changes in the use of new pigments to produce different color effects on the pottery designs.

Some of the material culture shows continuities with the preceding Harappan Phase, but chert weights and Indus inscriptions is no longer present. Jhukar circular seals are also found at the site of Pirak. Most recently, sealings of similar circular seals with geometric designs have been found at the site of Gilund in Rajasthan. The distribution of Jhukar style artifacts throughout the southern Indus Valley indicates extensive regional change, probably as far as the site of Gilund to the East. However, the lack of Jhukar pottery at Harappa, or other sites in the North, seems to demonstrate the lack of major long-distance trade. Many of the Jhukar sites in Sindh were eventually abandoned around 1700 BC and not re-inhabited until Early Historic period around 500 BC or later.

Intrusive Culture or a Harappan Shadow: There is raging controversy between those who see the Jhukar as an outgrowth of the Harappan culture, and those who see it as an intrusive culture. Some of the archaeologist even see the imprint of Aryans on the Jhukar pottery.



Jhukar Culture seal, obverse and reverse, from Chanhu-daro, Lower Indus Valley

At almost all sites, the Jhukar pottery coexists with the Harappan material. This lead us to conclude that the Jhukar pottery developed from that of the Harappan period. In deed, there is enough continuity to be noted that the Jhukar style does not appear to signal a break in the sequence. This was the conclusion reach by Ernest Mackay when he discovered Jhukar pots in the 1930s at Chanhu-daro. Such a continuity of cultural traits has also been documented by Mughal (13) and Dales (15) at the site of Jhukar and at Mohenjo-daro; and most recently by Heidi Miller (16) at Chanhu-daro. Possehl, too, stressed the absence of stratigraphic breaks between the Harappan and Jhukar pottery strata. There are changes, however.

Mughal (digging at Jhukar) and Dales (who re-excavated Mohenjo-daro) are of the opinion that the Jhukar is only a late developed ceramic tradition and not the sign of a new culture in Sindh, leave alone the remains of intrusive Aryans (13,15,17),. Mughal argued that at the site of Jhukar, Mature Harappan pottery was present in all three phases and was associated with Jhukar pottery, which means that it was only an evolving ceramic tradition. a mere shadow of the Harappan. Possehl, too, (18) stressed the absence of stratigraphic breaks between the Harappan and Jhukar pottery strata at the sites in Sind. The important point about Dales and Mughal's observations is chronology: one kind of material culture does not follow on the other, but overlaps with it.

For some archaeologists, this argument is simply a non-starter and they wonder if other explanations cannot be offered for the co-existence of Harappan and Jhukar pottery. According to them, the evidence at Chanhu-daro of other artifacts like bone awls, fire-places, head rests and seals, and a totally different style of habitation have not been sufficiently appreciated. The fact that Mackay found it difficult to isolate Jhukar material from Harappan was because standing Harappan structures were occupied, disturbed, and modified - not because one culture grew, little by little, out of the other (1). It is also pointed out that in certain strata at some sites, Amrian or Kot Dijian pottery likewise occurs together with Harappan pottery and no one has denied the distinctness of any of these as cultural phenomena; moreover, such overlaps could indicate that the Harappan material culture was intrusive in these

places. CHOLISTAN

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Mature Harappan Late Harappan

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60 1 1,0-20 0 >80

40 5-10 "';";;130-40

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Late H.Early H. Mature H.

hectares

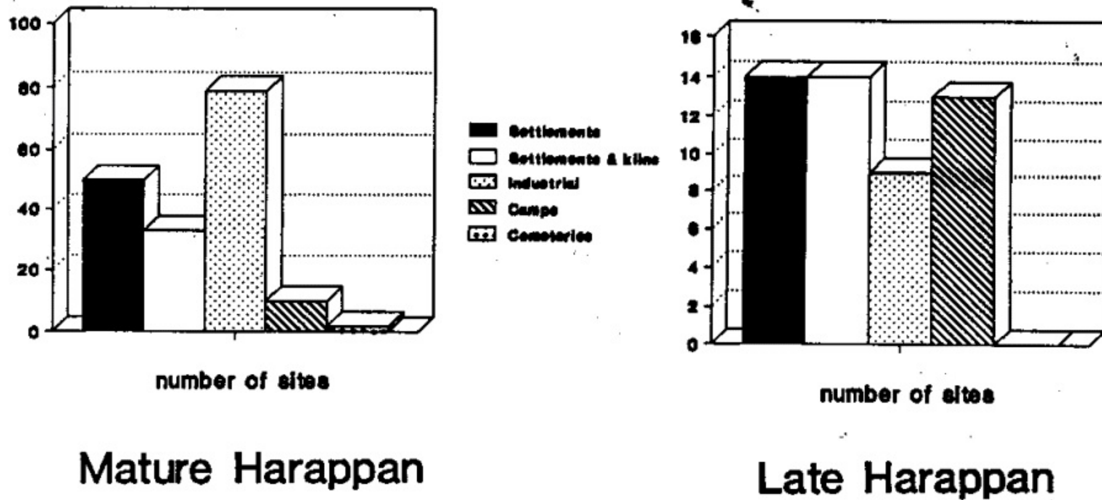
Fig.4. Diagrams showing different categories of sites of the Mature and Late Harappan Periods in Cholistan (above); and number of sites according to their size during the Early, Mature and

Diagrams showing different categories of sites of the Mature and Late

Late Harappan Periods (below).

Harappan Periods in Cholistan (above); and number of sites according to their size during the Early, Mature and Late Harappan Periods .

CHOLISTAN



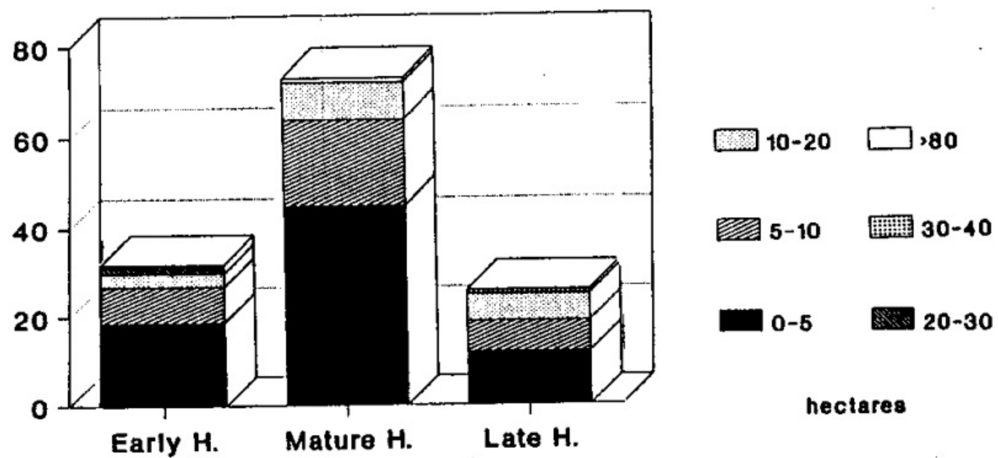


Fig.4.

Diagrams showing different categories of sites of the Mature and Late Harappan Periods in Cholistan (above); and number of sites according to their size during the Early, Mature and Late Harappan Periods (below).

knot design); (v) short barrel-shaped or biconical beads of faience; and (vi) bronze tools and pins with spiral or other sorts of ornamental heads. Further study will probably reveal more such items and that 'Jhukar' was indeed what we can call an archaeological culture, not a diluted form of the Harappan.

An intriguing discovery among the objects found at the Late Harappan sites of Jhukar, Chanhu-daro and Amri in the lower Indus Valley are a few stray artifacts that seem clearly alien in style: a copper shaft axe-adze of Iranian or Central Asian design, several daggers with midribs and holes where they had been riveted to metal

Another reservation one can voice about the idea of Jhukar being little more than a new ceramic style is that in Mackay's report on Chanhu-daro: 'Jhukar' means not only a certain kind of pottery but also (i) huts constructed of brickbats and matting; (ii) fireplaces outside huts or indoors in wall recesses formerly occupied by doorways; (iii) a profusion of bone awls used for making mats; (iv) round or occasionally rectangular seals with basic geometric motifs (except for a few showing animals or a beautifully executed handles, copper pins with decorated heads, round or occasional square compartmented seals bearing geometric designs. These objects find their closest analogues to the finds from the Bactrian archaeological complex. Similarly, evidence from Nausharo IV, Mehrgarh VII, Sibri and Priak indicates new influences showing "too many intrusive elements and similarities with the Bactria-Margiana Archaeological Complex to be seen as a purely local assemblage.

Piggott finds similarity between the stone beads found at Lohumjodaro and the beads of the Hissar IIIc and Anau III. At Chanhu-daro III, the long berrel-shaped faience beads find parallels in Jammed Nasr and Early dynastic contexts in Summer. The copper shaft-hole axe found in Chanhi-daro II has parallels at Shahi-timp cemetery and the series of copper pins are without parallel anywhere in the Harappan culture. But these are known at Sumer in Early dynastic times and also in Hissar IIIb. Bone awls are also said to be yet another novelty which, according to Mackay, might have been employed for mat weaving.

Withthesenewinfluences, there appears to be a gradual change with a steady reduction in the characteristic Harappan elements and their replacement by a

new Jhukar style reflecting a distinct 'shift' of craft techniques.These indicate that there were significant contacts between Sindh and the cultures west of the mountains in Iran and Turkmenia, whether through trade or the arrival of immigrants. On the basis of this evidence, the excavators of Chanhu-daro and Amri believed the Jhukar to be an intrusive element.

This criticism is particularly valid when we see a similar intrusion of western cultures in the northwest of Pakistan, to be discussed in the next chapter. This assortment of artifacts is attributed by some archaeologists to a new people who arrived from the West. They were either the first hordes who were instrumental to destroy the economic base of the Harappan peripheries on the West to followed the earlier raiders.

The Upper Indus Valley: The evidence from Harappa presents a similar scenario as that from Mohenjo-daro and Chanhu-daro. Here too the uppermost strata on mounds AB and F have scanty building remains, and those still extant were constructed of brickbats. Later excavations (Harappa Archaeological Research Project) distinguish a Late period (no.3) within which the lowest stratum

(no. 3A) shows unrepaired walls, nonfunctioning drains, and animal skeletons in the streets. This was, however, followed by a phase of rebuilding and repair. In the uppermost (no. 3C) level, scored goblets are abundantly found; there are encroachments on to the streets, and extensive brick robbing. Period 4 on mounds E and AB is identified by Meadow and Kenoyer (HARP) as transitional between the Harappan and the Cemetery H culture of period 5 when people using a totally different kind of pottery buried their dead in the old cemetery of Harappa. The architectural remains of levels 4 and 5 are scant and those that occur are structures utilizing assorted sizes of bricks.

A study of the settlement pattern of the Harappan and Late Harappan sites in the Punjab and the Bahawalpur area also indicates a trend of decay. Along the banks of the Hakra river the number of settlements came down to 50 in the Late Harappan period from 174 in the Mature Harappan period. The population seems to have either perished or moved away to other areas. Whereas the number of sites in the triangle of Harappa, Ganweriwala and Mohenjodaro declined, the number of settlements in the outlying areas of East Punjab, and Haryana increased although their average size was quite small. The population size in this area may have not seen an equally phenomenal growth but at least it remained stable or increased some. This increase in the population of this region is often explained by the emigration of people from the core regions of Harappan Civilization, especially from Cholistan.

Harappa is perhaps the only urban center where it has been possible to trace the transition from the Harappan to the post-Harappan period. Harappa, like Mohenjodaro, was eventually abandoned. Before its abandonment Harappa seems to have witnessed the arrival of a group of people about whom we know through their burial practices. Most of our information on this period in the Upper Indus Valley comes from early excavations in Cemetery H and hence the Cemetery H culture. Additional information comes from disturbed occupation deposits containing fragmentary walls, drains, and pottery (19). These people were using a pottery which was different from those of the Harappans. We find that buildings associated with power and ideology were decaying and goods related to displays of prestige and splendor were becoming increasingly scarce.

The evidence from Harappa presents a scenario which is similar to Mohenjo-daro. Vats discovered a decadent period of structures of reused brick and pottery including some similar to that discovered in Cemetery H. which bore a stratigraphic relationship to an earlier cemetery known as R 37 of the Mature Harappan period. Some pottery of this phase in similar to that of mature phase whereas in other cases the pottery introduces both new form and new painted styles. The pottery of Cemetery H and the religious content of its decorations suggest on the one hand a continuum with Mature Harappan elements, and on the other the presence of new features which have been associated with the arrival of some new people. This period has been placed between 2000 and 1500 BC.

Later excavations, conducted under the HARP indicated that the uppermost strata on mounds AB and F have scanty building remains, and those still extant were constructed of brickbats (19) These investigations identified a Late period (no. 3) within which the lowest stratum (no. 3A) shows unprepared walls, non-functioning drains, and animal skeletons in the streets. This was, however, followed by a phase of rebuilding and repair. In the uppermost (no. *3C)* level, scored goblets are abundantly found; there are encroachments onto the streets, and extensive brick robbing. Period 4 on mounds E and AB is identified by Meadow and Kenoyer as transitional between the Harappan and the Cemetery H culture of period 5 when people using a totally different kind of pottery buried their dead in the old cemetery of Harappa. The architectural remains of levels 4 and 5 are scant and those that

occur are structures utilizing assorted sizes of bricks (19,20).

Although there may have been a major shift in burial practices during this transition and some dramatic changes in artifact styles and production, other aspects of architecture and many crafts show considerable continuities. Like Mohenjo-daro, Chanhu-daro, and many other locations in the Lower Indus Valley, the last period of occupation at Harappa shows a serious decline in civic standards, with poorly constructed houses, pottery kilns in what had previously been residential areas, the neglect of civic amenities such as drains, and corpses thrown into abandoned houses or streets instead of being buried with due rites.

An intriguing indicator of social change is the appearance of the scored goblet in Late levels in Harappa as they did in mohenjo-daro. (21). These were carelessly turned on the wheel. They



Harappan phase. Second, there is no evidence to believe that such a settlement pattern continued or newly emerged in the later part of the HarapAncient Pakistan - An Archaeological History

were not meant to be stood upright on floors or shelves when full. The deep scoring around the shoulder shows that such pots were to be tied with string in order to be carried around. Scholars have remarked on the similarity of these 'goblets' to the present-day *cullard* in northern India, but Ratnagar does not believe that their original purpose was at alI similar (*1*). The scored goblet is

Blackbuck antelope with trefoil design made of com
practically the only Harappan pot form to carry.
bined circle-and-dot motifs, possibly representing
Mass-produced on the wheel and fired in stacks,
stars. It is associated with burial pottery of the Ceme
such pots could not have been containers for in
tery H period, dating after 1900 BC dividual offerings from the populace to the gods.

Perhaps some measured item - emergency grain rations for example - was handed out to the populace

in these containers. Another explanation is that they were a measuring device for trading grain, as *topa* (a deep dish, made of wood) has been used for this purpose in Pothwar region till very recent times; hence their occurrence in large numbers, plus the fact that they seem to occur in a restricted size range. Although present in large numbers at cities like Harappa and Mohenjo-daro, and known at Amri, they are practically absent in peripheral areas such as Lothal and Shortughai. The excavators found that at Mohenjo-daro these goblets occurred in clusters, say near wells, rather than singly, and had suggested that they were drinking vessels; but there would have been


Painted dish from Harappa with two pea cocks and a sacred tree in the design



Although there were signs of civic decay at Harappa in the Posturban period, it was still a time of innovation and vibrancy, as is demonstrated by the production of glass, a considerable technological advance. This bead is the earliest glass object known from the subcontinent. (Harappa Archaeological Research Project, Courtesy Department of Archaeology and Museums, Government of Pakistan)

otherwise unknown culture took its name. A number of caches of distinctive copper artifacts, including antenna-hilted swords, anthropomorphic axes, swords with a hooked tang and a midrib, and barbed and tanged harpoons, were also found in the doab, and they were attributed to a Copper Hoard culture. It was only in the later twentieth century, however, that excavations demonstrated that eastern OCP and copper hoards were made by the same people in the doab, who could now be chronologically pinned down to the early to mid second millennium. The copper hoards' artifacts are often of high-arsenic copper, the arsenic either being a deliberate alloy or, more probably, present as an impurity in the copper ore: This contrasts with other contemporary and earlier copper artifacts in South Asia, indicating a source other than the Aravallis.

OCP is a red ware with red slip and often painted decoration. Its antecedents lay in the red wares of the Jodhpura-Ganeshwar culture, showing that its makers included the indigenous cultures of the region, which had a long tradition of manufacturing copper artifacts. OCP sites can be divided into two groups. The western OCP was known at sites such as Jodhpura, Siswal, Mitathal, and Bara, occupied by late Jodhpura-Ganeshwar or Late Harappan

period of Harappa

Although there were signs of civic decay at Harappa in the Posturban

known from the subcontinent. (Harappa



Period 4 (Late Harappan transitional)

kiln with hollow

A glass-like bead from the Late

lower fire box and arched floor with holes for allowing **A collection of reconstructed pottery from the Late**

levels of Trench 43 **heat to enter the upper firing chamber. This type of kiln(Harappa). These shapes include the final Harappan forms and transi**

production

ca.

period, it was still a time

was introduced at Harappa

nological advance. This bead is the earliest glass object

of glass, a considerable **1900 BC and allowed the** **tional Late Harappan period shapes**

pan Civilization.

Most of the sites in Cholistan are residential settlements as well as those which are primarily connected with industrial activities, that is, dis



tinguished by kilns and pottery firing areas. The pottery forms and decorations are mixed with other types of pottery comparable with those **Burial Urn from Late Harappan Period, from Harappa**





Late Harappan Period dish or lid with perforation at edge for hanging or attaching to large jar. It shows a Blackbuck antelope with trefoil design made of comCeramic Serving Stand from Late Harappa Period,

Ceramic Serving Stand from Late Harappa Period,
stars. It is associated with burial pottery of the Ceme
Harappa
tery H period, dating after 1900 BC
potters to reach higher temperatures more efficiently

Government of Pakistan)



exact nature of these changes and the processes responsible for them are at present unknown. The disappearance of urban centers noted for the Late Harappan is not an assumption, as some archaeologists would claim, but the cultural changes in smaller settlements are less clear. Nevertheless, a regional survey may be useful:


Burial Urn from Late Harappan Period, from Harappa


Ceramic Serving Stand from Late Harappa Period,

otherwise unknown culture took its name. A number of caches of distinctive
copper artifacts, including antenna-hilted swords, anthropomorphic axes, 449
swords with a hooked tang and a midrib, and barbed and tanged harpoons,

no need to make water cups on the wheel in a
ture. It was only in the later twentieth century, however, that excavations

standard that eastern OCP and copper hoards were made by the same impress them with people in the doab, who could now be chronologically pinned down to the
seals. Perhaps this was a secondary use found
for these vessels.

present as an impurity in the copper ore: This contrasts with other contempo
rary and earlier copper artifacts in South Asia, indicating a source other than
the Aravallis. InCholistan,LateHarappanperiodis

OCP is a red ware with red slip and often painted

dominated by the Cemetery H culture. Although
no large horizontal excavations have been made,
on the basis of surface surveys Mughal has come
to the conclusion that the settlement pattern was
the continuation of three- or four-tiers of settle
ment hierarchy. This conclusion is, however, de
bated. To start with, there is no unambiguous indi
cation of a three- or four-tiered settlement in the

Painted dish from Harappa with two pea
Painted dish from Harappa with two peacocks and a
size,
much
less
cocks and a sacred tree in the design

sacred tree in the design

found associated with Cemetery H at Harappa. The sites are mostly located to the North and Northeast of Derawar Fort, an area which was essentially fed by a channel from the Sutlej River since the Mature Harappan times. Such a high concentration of Late Harappan, Cemetery H related sites has not yet been found elsewhere though Stacul (22) discovered red wares painted



Although there were signs of civic decay at Harappa in the Posturban period, it was still a time of innovation and vibrancy, as is demonstrated by the production of glass, a considerable technological advance. This bead is the earliest glass object known from the subcontinent. (Harappa Archaeological Research Project, Courtesy Department of Archaeology and Museums, Government of Pakistan)

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A glass-like bead from the Late period of Harappa

Although there were signs of civic decay at Harappa in the Posturban period, it was still a time
of glass, a considerable tech
subcontinent. (Harappa
and Museums,

A collection of reconstructed pottery from the Late levels of Trench 43 99
(Harappa). These shapes include the final Harappan forms and transi

of innovation and vibrancy, as is demonstrated by the production
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Archaeological Research Project, Courtesy
Government of Pakistan)
glass object known from the
Department of Archaeology **tional Late Harappan period shapes**

otherwise unknown culture took its name. A number of caches of distinctive
copper artifacts, including antenna-hilted swords, anthropomorphic axes,

449

with designs of Cemetery H origin as far west as Taxila.

We notice a shift of Cemetery H settlement to the Bahawalpur area on one hand and into the Divide on the other hand. There are 50 sites of this culture in Cholistan and a similarly large number in the Divide. Settlements in the eastern region included sites, such as Mitathal and Ropar, that had been occupied earlier (Mitathat for instance, had been founded in the Early Harappan period) and others, such as Bara, that were new foundations. This spread went hand in hand with a gradual decline in the density of settlement from west to east.

A study of the settlement pattern of the Harappan and Late Harappan sites in the Bahawalpur area indicates a distinct trend of decay. Along the banks of the Hakra river the number of settlements came down to 50 in the Late Harappan period from 174 in the Mature Harappan pe

culture which largely represents the Late Harappan culture in the Upper Indus Valley, from Txila to deep in the Divide.

The End of the Harappan Civilization, and the Aftermath

As pointed out earlier, in the Upper Indus Valley, the Late Harappan Period

is recognized by a group of pottery found with the burials of Cemetery called 'H' at Harappa and on the uppermost occupation levels of Harappan Mound AB, at the site of Chak Purbane Syal, and at 50 other sites in Cholistan.

Contemporary with a scene of a dilapidated city with utter neglect of architecture and infrastructure,

of Harappan Civilization, especially from Cholis
non-functioning drains, and general deterioration of civil structure, was the use of Cemetery H where in
tan.
the lower level (period II) graves contained extended inhumations with both typical Harappan pottery and

some new innovations, particularly new shapes of pottery and a

The evidence from mature and Late Harapnew style of decoration. In the upper stratum of this cemetery

pan sites shows a complex interplay of elements

were found pot-burials without any grave goods - a complete

departure from the Harappan tradition. Wheeler showed in

of continuity and change. Compared to mature1946 that this cemetery bore a stratigraphic relationship to an

Harappan pottery, the slip of late Harappan pot

earlier cemetery known as R 37 of the Mature Harappan

period. All the cemeteries belonging to post mature phase have

tery is less bright. The pots tend to be thicker andbeen identified as Cemetery H culture. Most of our information

sturdier and rather crude. Some of the classic on Late Harappan period comes from early excavations in Harappan

shapes - e.g., the beaker, goblet, perfo

Cemetery H and from disturbed occupation deposits containing fragmentary walls, drains, and pottery (Kenoyer,

rated jar, s-shaped jar, and pyriform (pearJ.M. 1991. The Indus Valley Tradition of Pakistan and Western shaped) jar - disappear.

India, *Journal of World Prehistory* 5 (4): 331-85.). Later Other shapes - e.g. jars

excavations by Meadow, Kenoyer, and Wright on Mound AB, of different shapes and the dish-on-stand - conMeadow, Kenoyer and Wright 1996 Excavations, submitted to

tinue.



the Department of Archaeology and Museums, Government of The scene in Indian Punjab is slightly difPakistan, 17 December, 1996), along with work conducted in **Late Harappan Period dish or lid with** 1998 through 2000 on Mound F have provided new insights

ferent from that of Pakistani Punjab. In East Puninto the important continuities and changes that took place **attaching to large jar. It shows a** during the Late Harappan period. Although there may have jab, Haryana, and north Rajasthan the number of been a major shift in burial practices during this transition and**Blackbuck antelope with trefoil design** some dramatic changsettlement dramatically increased. A number of

motifs, possibly representing stars. It is

archaeologists have brought to light more than

associated with burial pottery of the

one thousand 'Harappan sites' (23), of which a

BC.



Late Harappan Period dish or lid with perforation at edge for hanging or attaching to large jar. It shows a Blackbuck antelope with trefoil design made of combined circle-anddot motifs, possibly representing stars. It is associated with burial pottery of the Cemetery H period, dating after 1900 BC.

riod. The population seems to have either perished or moved away to other areas. Whereas the number of sites in the triangle of Harappa, Bahawalpur and Mohenjodaro declined, the number of settlements in the outlying areas of East Punjab, and Haryana increased. This indicates a phenomenal increase in the number of settlements in these areas, although their average size was quite small. The population size may have not seen an equally phenomenal growth but at least it remained stable or increased some. This increase in the population of this region is often explained by the emigration of people from the core regions





es in artifact styles and production, other aspects of architecture and many crafts show clear continuities. **Late Harappan Period large burial urn with ledged rim for holding a bowl-shaped lid. The painted panel around the shoulder of the vessel depicts flying pea cocks with sun or star motifs and wavy lines that may represent water. Cemetery H period, after 1900 BC. These new pottery styles seem to have been introduced at the very end of the Harappan Period. The transi tional phase (Period 4) at Harappa has begun to yield richly diverse material remains suggesting a period of considerable dynamism as socio-cultural traditions**



ere along the banks of Sutlej River and the Sutlej-Ghaggar Doab has a concentration of such sites. Excavations at Kotla Nihang Khan, Ropar (now Rupnagar), Bara, Dher Majra, Chandigarh, Sanghol, Nagar, Dadheri and Katpalon give a general background of the Harappan movement in Indian Punjab (Sonawane, Y.S and A. Majumdar, *Post-Urban Harappan Culture in Punjab, Haryana and Uttar Pradesh*

in **(after 1900 BC). In the center is a small painted globular** *B. The Earliest Civilization of*
pot from a burial group. These forms and their surface treatments are quite distinct from the characteristics of

the preceding Harappan Period





Terracotta bangle fragments decorated with red trefoils outlined in white on a green ground from late Period 3C deposits in Trench 43 at Harappa. This image shows both sides of the two fragments.

The manufacturing of terra-cotta bangles (and probably some other artifacts) continued, although at a much reduced level.

total of 563 sites have been assigned to the Late

Harappan Period. If we consider all the sites not the case everywhere. The settlements in Saurashtra were also expanding. Overall, the data suggests an eastward and southward shift of settlements. The pottery produced in Late Harappan settlements in this region is said to display features of form, decoration, and fabric derived from many sources, including Mature Harappan, SothiSiswat Jodhpura-Ganeshwar, Cemetery H, and Jhukar wares. Other materials in these settlements include copper artifacts.

The Harappans reached here along the banks of Sutlej River, and the Sutlej-Ghaggar Doab has a concentration of such sites. Excavations at Kotla Nihang Khan, Ropar (now Rupnagar), Bara, Dher Majra, Chandigarh, Nagar, Dadheri and Katpalon give a background of the Harappan movement in Indian Punjab (24). In the words of B.B. Lal: “the overall picture in the upper Sutlej valley highlights a local pottery tradition termed the Baran. It is in this milieu that the Mature Harappan made its appearance. However, in due course of time the Harappan elements became feeble but the thrust of the Barans continued” (7).

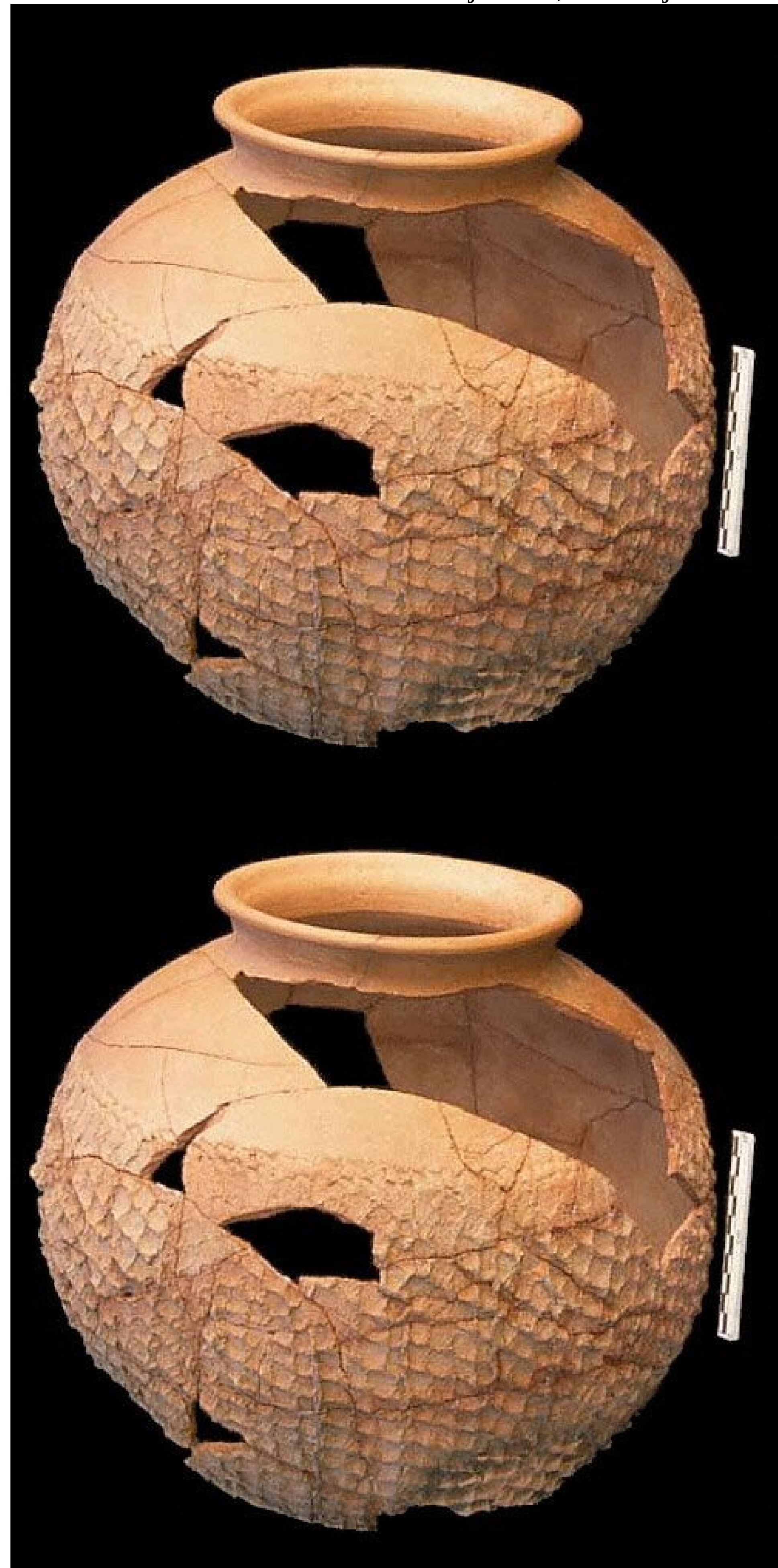
With these general remarks in mind, we shall now proceed with the examination of the Cemetery H culture which largely represents the Late Harappan culture in the Upper Indus Valley, from Taxila to deep in the Divide.

Cemetery H Culture: As pointed out earlier, in the Upper Indus Valley, the Late Harappan Period is recognized by a gr.oup of pottery found with the burials of Cemetery called 'H' at Harappa and on the uppermost occupation levels of Harappan Mound AB, at the site of Chak Purbane Syal, and at 50 other sites in Cholistan.

Contemporary with a scene of a dilapidated city with utter neglect of architecture and infrastructure, non-functioning drains, and general de

Sanghol, general
grouped under the Late Happan, an impressive terioration of civil structure, was the use of Ceme map of their spatial distribution emerges covering
urban culture (the Mature Harappan Civilization)
the Indo-Gangetic Divide, east Punjab and Hary
and there was a period of time when the character
ana and extending up to the Ganges River in
istics of this civilization were nowhere to be seen.
which some areas of high settlement densities are
Let us call it the post-Harappan period. Now, con
very evident. It should be noted, however, that
ceptually, there must be a transition between the
most of these sites are very small and most of the
two. We call this transition the Late Harappan or the
ones which have been catagorized as such are
probably not Harappan.final phase of the Harappan Civilization.
It should be clear from the above that the
Anumberofsmallsettlementsalso
historical processes impinging on Harappan life in
emergedthe early second millennium were complex, varied
these settlements were rather small, houses were
and paced at different times in different regions.
generally made of wattle and daub, but the agri
cultural base was very diverse. In Kutch and Sau
rashtra, there is a marked increase in the number
of settlements in the earlier part of the Late **A Cemetery-H urn from Cemetery H at Harappa , 1500** Harappan phase, from 18 in the mature Harappan **BC - 1200 BC, bearing naturalistic designs but also an** phase to 120 in the early Late Harappan phase. **A Cemetery-H urn from Cemetery H at Harappa ,**
interesting series of what seems to be mythological motifs. While there was abandonment or severe reduc **1500 BC - 1200 BC, bearing naturalistic designs but** **The latter include peacocks with a human form drawn in** tion in population in Punjab and Cholistan, the **the middle, and bulls/cows with plant-like attachments to** increase in the number of settlements in Indian
logical motifs. The latter include peacocks with a hu
their horns.

man form drawn in the middle, and bulls/cows with Punjab, Haryana, western Uttar Pradesh, north**plant-like attachments to their horns.** ern Rajasthan, and Gujarat shows that this was



The latter include peacocks with a

human form drawn in
the middle, and bulls/cows with plant-like attachments to their horns.

tery H where in the lower level (period II) graves contained extended inhumations with both typical Harappan pottery and some new innovations, particularly new shapes of pottery and a new style of decoration. In the upper stratum of this cemetery were found pot-burials without any grave goods - a complete departure from the Harappan tradition. Wheeler showed in 1946 that this cemetery bore a stratigraphic relationship to an earlier cemetery known as R 37 of the Mature Harappan period. All the cemeteries belonging to post mature phase have been identified as Cemetery H culture.

Most of our information on Late Harappan period comes from early excavations in Cemetery H and from disturbed occupation deposits containing fragmentary walls, drains, and pottery **Period 4 (Late Harappan) globular pot (H99/8763-503)** the painted decorations from that of the Harappan

(25). Later excavations by Meadow, Kenoyer, and culture. In the decoration, peacock or rather a**from Trench 43 at Harappa after reconstruction**
Wright on Mound AB (26), along with work conhighly stylized mythic bird seems to be the most



frequent motif. Besides it, cattle, fish,


A collection of pottery from Late Harappan period at Harappa

A collection of pottery from Late Harappan period at Harappa

ducted in 1998 through 2000 on Mound F have in a newprovided new insights into the important continuigraveyard.

Pointed Base Goblets. These rather carelessly thrown gob

goats, dog, and less frequently, hu

man beings, also appear. Stars of**lets with scoring under the rim, were common in the Late**

various shapes, rind-and-dot pat**Harappan phase of the Indus Civilization at almost all large**terns, groupings of straight and

wrin**settlements, particularly at Harappa**

kled lines and short lengths of zig-zag lines are used to fill the empty

spaces. The decoration sometimes characterized as squatters' abodes. The large dif goes around the vases in continuous ferentiated settlements, such as Harappascenes. The pottery is found at sev eralMohenjo-daro, broke down into 'squats'; where pub

throughout the Punjab and the Cho

lic architecture, workshops and domestic quarters listan. were clearly demarcated; they are no longer found.

The lower level graves in Cemet

try H at Harappa contained extendedSome vestiges of the Harappan society, inhumations with both typical Haraphowever, remained in view. While sea trade now

pan pottery but also some innova

hardly existed, the wide distribution of many cultural

tions: new shapes and a new style of

elements (such as features of ceramic form and

decoration. In the upper level of the

decoration, and distinctive stamp seals) indicates

cemetery, however, a new rite ap

pears: urns containing the collectedthat there was still considerable interregional com

bones of individuals who had gener

munication, and movements of individualsally been cremated, along with pottery groups both within the Indus Valley and between itstyleandnamedtheCemetery H after the Cemetery H pottery appears to be aregions to its north and the What should also be equally clear is that, in their Harappan period. Although there may have been hybrid style in which both new and Harappancontinued.There seems to be an increasing amountinterrelated totality, they had a stunning effect onforms were made, often largely plain, with a singleof contacts between the Indus Valley and the areaa major shift in burial practices during this transi the Indus peoples. What had once been an ancientband or frieze of painted decoration. Many of theto its east - a region that was only peripheral to thetion and some dramatic changes in artifact styles motifs used in the decoration, such as peacocks,urban system, was much altered in terms of the and production, other aspects of architecture and animals, and pipal leaves, were familiar, whileIndus people so far. Although the manufacture ofcomplexity of organization. The major urban centers During excavations of the circular platothers, such as stars, dotted rings, wavy lines,finely crafted square seals ceased altogether, thewere no longer functioning as organized cities. Ifand people with long streaming locks of wavy

form area on Mound F numerous Cemetery H

there was settlement within their bounds it is best

fabricating of crudely made round seals continued.hair, were new.

type sherds and some complete vessels were

recovered in association with pointed base gob
lets and large storage vessels that are usually
associated with Harappa Period 3C. A large kiln
was also found just below the surface of the
mound to the south of the circular platforms. The
upper portion of the kiln had been eroded, but the
floor of the firing chamber was found preserved
along with the firebox. Upon excavation it became
clear that this was a new form of kiln with a barrel
vault and internal flues. This unique installation

In the upper level of the cemetery, new rites of burial appear: urns containing the col

[447]lected bones of individuals who had generally

been cremated. Physical analysis of these bones suggests that they belonged to people different from the earlier inhabitants of the city but this evidence has recently been challenged. Cemetery H pottery appears to be a hybrid style in which both new and Harappan forms were made, often largely plain, with a single band or frieze of painted decoration. Many of the motifs used in the shows a clear discontinuity with the form of Harappan pottery kilns, which were constructed with a central column to support the floor (20). Radiocarbon samples taken from Harappa Phase hearths in the domestic areas and from the bottom of the Late Harappan kiln will help to determine if these installations were in use at the same time or if the kiln was built in an abandoned area after the Harappa Phase occupation. It is possible that people using Late Harappan style pottery were living together with people using Harappan style pottery during the Period 4 transition between Periods 3C and 5.

In both the strata the burial jars and the accompanying pottery are distinct in shapes and decoration, such as peacocks, animals, and pipal leaves, were familiar, while others, such as stars, doted rings, wavy lines, and people with long streaming locks of wavy hair, were new. Parallels to some of these shapes and designs occur in the general BMAC area, in northern Iran and northern Afghanistan.

The pottery of Cemetery H and the religious content of its decorations suggest on the one hand a continuum with Mature Harappan elements, and on Th.e other the presence of new

features which have been associated with the
arrival of new peoples. This period has been[Ancient Pakistan - An Archaeological History]lar platforms. The upper portion of the kiln had
placed between 2000 and 1500 BC. Cemetery H
material presented earlier is inevitable, because the
pottery is widely distributed in Cholistan, East
aim of this section is to provide an outline of the
post-Bronze Age cultural situation.Punjab and even farther east. To the West, it is
known as far northwest as Taxila. Recent re

Lower Indus: Like the Greater Indus Valley
in general,
search at Harappa has shown that the transition
in the early second millennium, a num
from the Harappan to the Cemetery H culture was

ber of settlements in Sindh were abandoned, includ
ing Balakot, Allahdino, and Mohenjo-daro. The latgradual, thus confirming what was been found in
est surviving levels at Mohenjo-daro saw squatter
occupations in some dilapidated houses. Among the
objects found there are a few stray artifacts that
seem alien in style: a copper shaft hole axe-adze of

tween 1900 and 1500 BC.
Iranian or Central Asian design and several daggers
Although the Cemetery H culture encom
with midribs and holes where they had been riveted
passed a relatively large area, the trade connec
to metal handles. Similar objects are known at
tions with the western highlands began to break
Chanhu-daro, Amri, and Jhukar, including shaft hole
down as did the trade with the coast. Lapis lazuli
axes, copper pins with decorated heads, and round
and turquoise beads are rarely found in the set
or occasionally square compartmented stamp seals
tlements, and marine shell for ornaments and rit
bearing geometric designs, including one resem
time,
however,
faience
became
bling a radiating sun or Catherine wheel. These in
increasingly
dicate that there were significant contacts between
common as a material for manufacturing jewelry
Sindh and the cultures west of the mountains in Iran
in these regions and in the villages of the post
and Turkmenia, whether through trade or the arrival
of immigrants.
Harappan settlers farther east. A bead from a
hoard at Harappa, dated around 1700 BC, was
These objects were associated with a style
made of brown glass, the earliest known example
of glass in South Asia.of pottery named after the site of Jhukar, a buffware
with painted designs, with similarities to the Early

The changes in painted pottery styles and

Indus Amri ware. This pottery can be seen to have
the inclusions of these pottery vessels in distinc
developed from that of the Harappan period, as can

been eroded, but the floor of the firing chamber
a pot. There are cups and a rather unusual straightwas
found
preserved
along
with the fire-box.
sided shallow dish and, a carinated bowl, both on
Upon excavation it became clear that this was a
stands. The shapes and motifs on the Jhukar pot
new form of kiln with a barrel vault and internal
tery differ from the Harappan styles and there are
flues.This unique installation shows a clear dis
some innovative technical changes in the use of
continuity with the form of Harappan pottery kilns,

new pigments to produce different color effects on which were constructed with a central column to support the floor (20). Additional evidence beHowever, there is enough continuity that the new Jhukar style does not appear to signal a break in the sequence, as Ernest Mackay had thought when he discovered Jhukar pots in the 1930s at

shows a discontinuity in some cultural aspects
Chanhu-daro. Such a continuity of cultural traits and a manifest continuity in others.
Baluchistan
and
Helmand has also been documented by Rafique Mughal (29)
Region:
and Dales (31) at the site of Jhukar and at Mohenjodaro; and most recently by Heidi Miller (30) at
Baluchistan had always been within the sphere of
Chanhu-daro. There are changes, however. AtHarappan culture since at least the fourth millen
Chanhu-daro, Miller describes the settlement as
nium B.C. It is therefore, of no surprise to find Ma
"haphazard and less focused" during this transitional phase that marks the end of occupation of
ancient lines of communications passing through
many sites in the Lower Indus. The square stamp
Baluchistan or along its eastern borders. The Ma
seals are replaced with circular ones bearing new
ture Harappan occupations in the Gomal, Zhob,
motifs and the terracotta female figurines associated
Loralai and Quetta Valleys fit into this pattern.
with Indus ideologies and cubical stoneThese wide ranging contacts were already estab
weights, both signature artifacts of the civilization,
lished and maintained at an early date which are
are rare. The Indus script also disappears, save for

supported by Th.e evidence of early third millen
examples incised on pottery (29). Jhukar and the
associated sites were merely a shadow of the Late
contacts continued to be intact throughout the Harappan culture in the Lower Indus.

ample of glass in South Asia. A new form of kiln appeared at Harappa, an indication that some aspects of technology were developing rather than declining. Harappa is perhaps the only urban center where it has been possible to trace the transition from the Harappan to the postHarappan period. Most of our information on this period comes from early excavations in Cemetery H and from disturbed occupation deposits containing fragmentary walls, drains, and pottery at Harappa. A large kiln was also found just below

the surface of the mound to the south of the circu**Sibri and the South Cemet**

tive pot burials, suggests that the Late Harappan
many of the artifacts at these and other contempo
elites had significantly different beliefs from the
rary sites in Sindh, though there seems to have

been a steady decline in their quality. Though there

tery styles and burial practices was quite a grad
was no sudden break between the Mature Harap
ual change, and the importance of specific colors
pan and Jhukar occupations in these settlements,
of beads, regardless of the actual material being
there was a marked decline in the standard of living,

with inferior houses built from salvaged bricks and used to manufacture them, suggests a continuity
in many respects of ideology. These patterns no attempt to follow the earlier planned street lay
could indicate that Late Harappan elites emerged
outs. Hoards of concealed jewelry and metal ob
jects
from haveindigenous communitiesat at Harappa or
been
found
Mohenjo-daro and
through the synthesis of local and non-local ele
Chanhu-daro, suggesting a prevalent feeling of in
ments. security. In the latter town, unfinished craft objects
The terminal period of the urban Harappa
suggest the hasty abandonment of activities in the

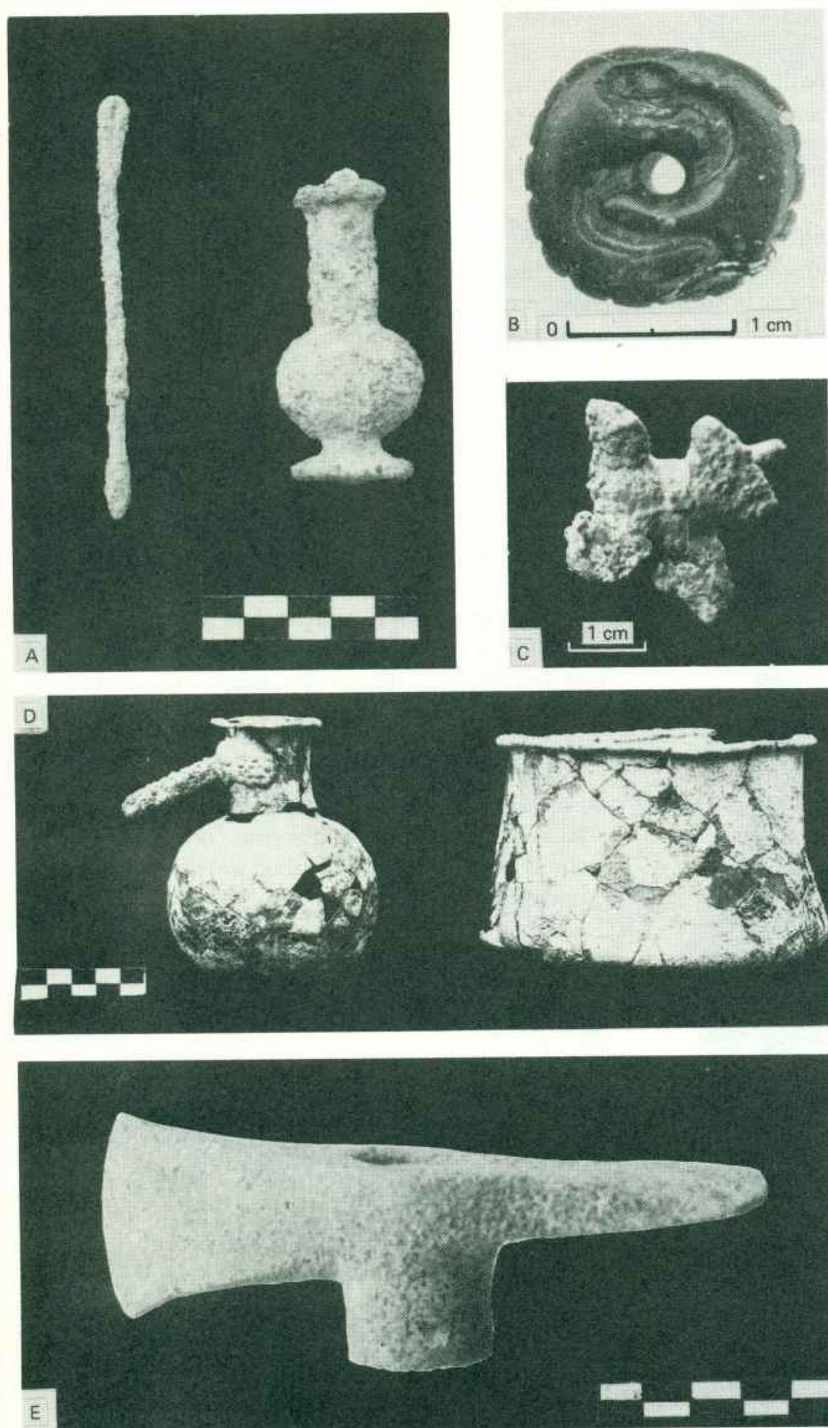


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

A Copper/bronze shaft-hole axe-adze from Sibri, near

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A Copper/bronze shaft-hole axe-adze from Sibri, near
osmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph

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Mehrgarh
Mehrgarhvessels from Grave 1; E. Copper/bronze shafthole axe-adze from Sibri
and the surrounding region also saw a marked
face of danger. There are, however, no signs of the
decrease in the use of 'imported' materials, such
violent destruction that have been found in many as marine shells, turquoise, and lapis lazuli. At the
sites farther west, in Baluchistan and eastern Iran.
same time, however, faience became increasingly
A fairly large number of settlements in the common as a material for manufacturing jewelry
Lower Indus Valley came under the cultural influ
in this region and in the villages of the settlers
ence of Jhukar in the period 1800-700 BC. Jhukar
farther east, in the Indo-Gangetic Divide. A bead
lies about 10 km west of Larkana town and is the

from a hoard at Harappa, dated around 1700 BC,

type-site of the Jhukar culture of post-urban Sindh. Jhukar material (pottery in the main) is also found at Mohenjo-daro, Amri, and Lohumjo-daro (a site

south of Mohenjo-daro), and other artifactual mate103rial of this category is attested at Chanhu-daro. Jhukar culture is mainly recognized by its assemblage of pottery, which is bichrome: on a cream

background (pots were given a thick slip of this
Mughal (digging at Jhukar) and Dales (who
Early Harappan phase and were intensified by the
re-excavated Mohenjo-daro) are of the opinion that
end of the third and beginning of the second mil
the Jhukar is only a late developed ceramic tradition lennium
B.C.,
and
further
enlarged
to
include
and not the sign of a new culture in Sindh, leave
southern Bactria, Margiana and Siestan to the
alone the remains of intrusive Aryans (29, 31, 32). Northwest,
and
Shahdad
and
Bampur
on
the
Mughal argued that at the site of Jhukar, Mature
West. The best evidence of these extensive inter
Harappan pottery was present in all three phases and
was
relationships comes from the South Cemetery at

associated with Jhukar pottery, which means that it was only an evolving ceramic tradition. Possehl, too, stressed the absence of stratigraphic breaks between the Harappan and Jhukar pottery strata at the sites in Sindh.

The important point about Dales and
Mughal's observations is chronology: one kind of
Mehrgarh and Sibri in the Kachi Plain of northand in its manufacturing techniques. At Nausharo,
western Sindh (28) which was contemporary with
phenomena; moreover, such overlaps could indi
the Late Harappan (Jhukar) Period of the lower
cate that the Harappan material culture was intru

Sindh.sive in these places.
In Baluchistan the evidence is extremely
At Jhukar there is a clear cultural overlap and
fragmentary. At Noshero, the final phase of period
commingling of cultures; and in the artifacts new
II contains distinctive pottery similar to that of the
tastes, but perhaps the old artisans, seem evident.
cemeteries of southern Central Asia. A cemetery
At Jhukar now the goblet is painted with Jhukar mo
south of Mehrgarh and another at Sibri contain
tifs. So if one is looking for elements in the archaeo
logical record of new equally distinctive pottery and bronze objects in the Jhukar and
cluding a shaft-hole axe-adze. These sites also
Cemetery-H cultures with their larger distribution
show remarkable affinities to the cemeteries of
appear to be claimants to that title.
the final phase of period II contains distinctiveseems to record significantPost-urban there, pottery similar to that of the cemeteries of south
change. The drop from 86 to 6 sites is important,
ern Central Asia (formerly of the Soviet Union). A
but so too, is the abandonment, or virtual aban
cemetery south of Mehrgarh and another at Sibri
donment of Mohenjodaro, the premier urban centre. contain equally distinctive pottery and bronze ob
The excavators of Chanhu-daro and Amri jects including a shaft-hole axe-adze. These sites
believed the Jhukar to be an intrusive and post
also show remarkable affinities to the cemeteries
Harappan element, The evidence at Chanhu-daro
of North Afghanistan and Central Asia.
of other artifacts like bone awls, fire-places, head

The Harappan and Kulli sites in southern **Sibri and the South Cemet**

people, rests and seals, and a totally different style of habi
Baluchistan appear to have lasted to be contem
tation have perhaps not been sufficiently appreci
poraneous with the Late Harappan (Jhukar) in
ated by Dales, Mughal, and Possehl. As Ratngar
Sindh. The Kulli bowls with multiple loops or lines
points out (2), the fact that Mackay found it difficult
on the rim, plain wares, horn motif of rows of ani
to isolate Jhukar material from Harappan was be
mals, and horizontally spread leaf design in par
cause standing Harappan structures were occupied,
ticular, also occur in the Jhukar assemblages. The
disturbed, and modified - not because one culture Kulli pottery is also reported at Lohumjo-daro,
grew, little by little, out of the other.

Ghazi Shah, Pandi Wahi and Shahjo-Kotiro indi
Another reservation one can voice about the cating close contacts between southern Baluchis
idea of Jhukar being little more than a new ceramic
tan and western Sindh. The padestaled bowls,
style is that in Mackay's report on Chanhu-daro jars,
beakers
and
perforated
ware
which
fre
'Jhukar' means not only a certain kind of pottery but
quently occur at the Kulli sites, have also been
also (i) huts constructed of brickbats and matting;
found at the Late Harappan South Cemetery at
(ii) fireplaces outside huts or indoors in wall re
Mehrgarh and Sibri. The latter site has yielded
cesses formerly occupied by doorways; (iii) a profu
channel spouted cups which have parallels in
sion of bone awls used for making mats; (iv) round
shape with one recorded at Dabar Kot and withor occasionally rectangular seals with basic geo
other sites in Bactria and South Turkmenia. In
metric motifs (except for a few showing animals or a
brief, the Kulli assemblages of southern Baluchis
beautifully executed knot design); (v) short barrelshaped
or
tan containing 'Harappan' materials do fall within
biconical beads of faience; and (vi)
the Late Harappan horizon of the lower Indus Val
bronze tools and pins with spiral or other sorts of
ley as represented at Jhukar and Mehrgarh.
ornamental heads. Further study will probably re
In the northern part, Stuart Piggott has
veal more such items and that 'Jhukar' was indeed
drawn our attention to the thick layers of burning
what we can call an archaeological culture, not a indicating violent destruction of whole settlements
diluted form of the Harappan.
at Rana Ghundai, Dabarkot, etc. The southern
Another area of our immediate interest in part the cemetery at Shahi-tump, dug into an
context of the post-Harappan landscape in Sindh is
abandoned Kulli settlement, shows copper stamp
the Kachi plain. The Kachi is an extremely arid and
seals, a copper shaft-hole axe and painted grey
inhospitable area immediately west of the lower
pottery, including footed goblets and bowls.
Indus alluvial plain and lies at the terminus of a Around
2200

BC,
Shahr-i
Sokhta

A Central Asian type Copper/bronze cosmetic bottle and
A Central Asian type Copper/bronze cosmetic bottle
its pin from Mehrgarh Cemetery (late period)
and its pin from Mehrgarh Cemetery (late period)

andworld route across southern Afghanistan and north
Mundigak went into decline, both shrinking very
ern Baluchistan. On this tract, that was watered by
significantly in area. Both suffered attacks during

the Bolan and other mountain streams, the mound

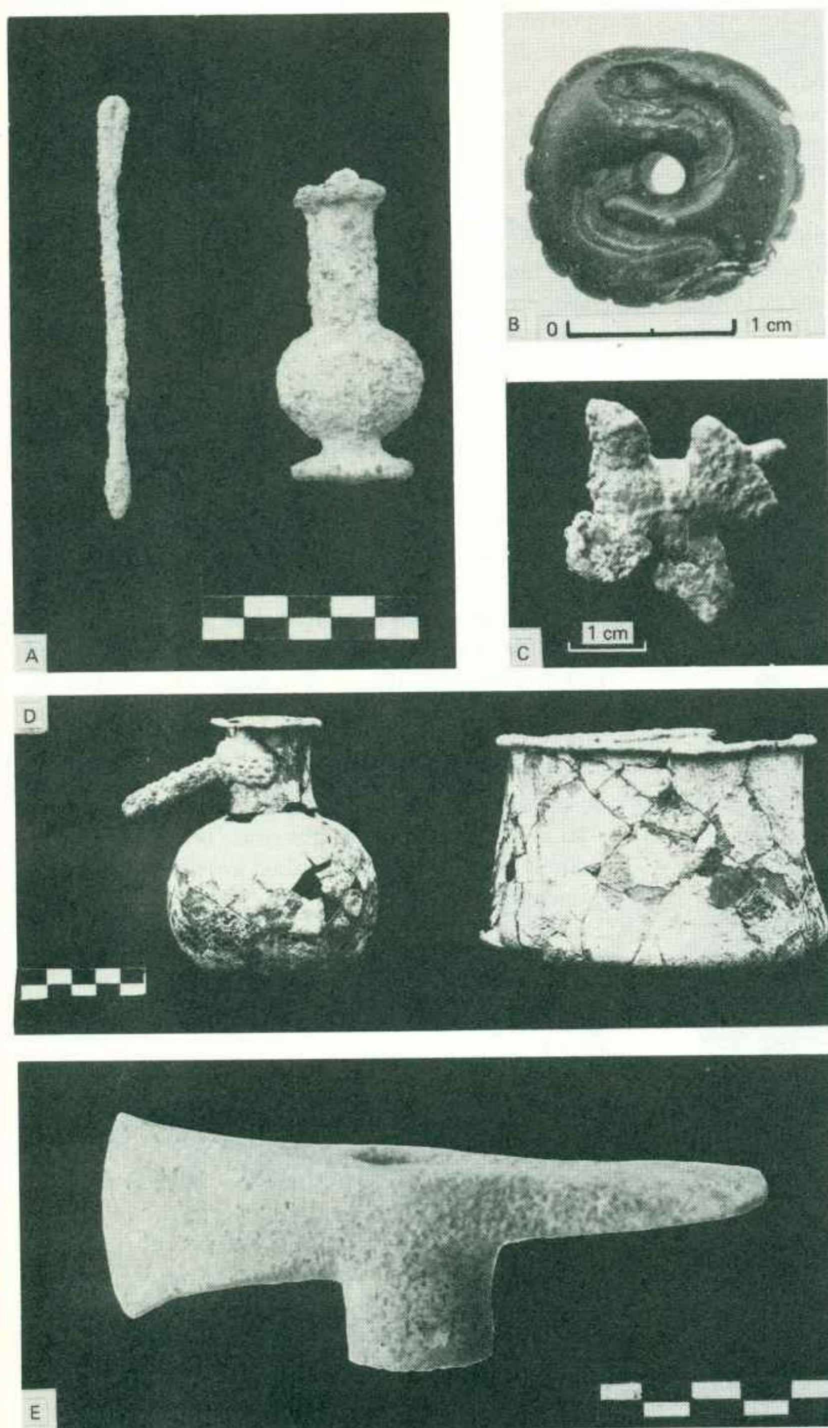


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

this period: Mundigak was temporarily abanNorth Afghanistan and Central Asia. The Late Harappan period saw theNotwithstandingthecontinuityshownbyof

Mughal and Dales,
the Jhukar culture contains a
Harappan settlements in the Makran, such as
number of intrusive objects, such as round button
Sutkagen-dor, due to falling sea levels, which also
seals, which find their closest analogues to the finds
affected some sites in Gujarat, including Lothal.
from the Bactria-Margiana Archaeological Complex.
Patterns of sea trade through the Gulf altered as
Similarly, evidence from Nausharo IV, Mehrgarh VII,
Mesopotamia experienced political and economic
Sibri and Priak indicates new influences showing
upheavals from around 2000 BC and the Indus
too many intrusive elements and similarities with the
Valley saw a precipitates decline in trade econ
Bactria-Margiana Archaeological Complex to beomy in its own realm. The Makrani ports no longer
seen as a purely local assemblage. With these new
acted as the entry point for sea trade on behalf of
influences, there appears to be a gradual change
the Indus region. At Mundigak (southern Afghani
with a steady reduction in the characteristic Harap
stan) a considerable reconstruction of a massive
pan elements and their replacement by a new Jhu
brick structure is found over the ruins of the pal
kar style reflecting a distinct shift of craft tech
ace of an earlier period. Copper stamp seals
niques. There was a withdrawal of certain distinctive
make their first appearance during period IV and
continue
into
V.
The
evidence
in
this
elements of life, such as the Harappan seals and
region
the use of writing. The same may be implied by the
seems to suggest that there was a substantial
sudden appearance of circular or square stamp
change in the settlements, in the style of pottery
seals of stone or faience. The documentation of
settlement in Sindh during the Jhukar period, the

of Nausharo has pre-Harappan as well as Harap
doned, then briefly reoccupied before being finally
pan levels (I to III). Level IV, in parts eroded or dis
abandoned. At Shahr-i Sokhta, the Burnt Building,
abandonment turbed by graves of recent times, has pottery in the
a large mud brick structure built around a court
Harappan tradition as well as Kulli-like round jars
yard, which was perhaps a palace, was destroyed
and painted goat friezes around pots. There are
by fire: A bronze spearhead and an unburied body
also Kulli-style clay figurines. In addition, there are 'trumpet-shaped'
have been found among the debris. The settle vessels with grooved rims and ment was reoccupied by squatters but abandoned
other elements reminiscent of those at Sibri (a site
around 1800 BCE. This coincided with a similar

also located in the Kachi) and sites on the Bolan route.decline in Turkmenia where prosperous Bronze Age towns such as Altyn-depe and Namazga also

The excavators found that in pre-Harappan shrank very consider- ably, as did the area of the
times Nausharo had links with the Baluchistan up
Namazga culture to which they belonged.
lands, but these did not last into the Harappan pe
The decline in Seistan and Turkmenia coin
riod. The lapis lazuli that we would have expected
cided with a global climatic change that is thought
to come from Chagai, is now scarce. At Nausharo
to have taken place around 2200 BC. Evidence
scored goblets and other ceramic elements of the
from sources as far apart as the Oman seabed,
tail end of the Harappan period are absent and the Tell Leilan in northern Mesopotamia, and the material culture shows, in level IV, fewer links with
Greenland ice sheets seems to indicate that a
Sindh than with eastern Iran and Turkmenistan. Burials
near
the
earlier
period of severe drought across a region from the settlement of Mehrgarh (Mehrgarh South Cemetery)
fitted this pattern, con
Mohenjo-daro
and Southern Sindh: As donments of Chanhu-daro require further thought Ancient Pakistan - An Archaeological History

stated earlier, at Mohenjo-daro, the last period of occupation of the city shows a serious decline in civic standards, with poorly constructed houses, eastern Mediterranean through much of Asia took

areas, the neglect of civic amenities such as drains,

hold around 2200 BC and lasted for around three and corpses thrown into abandoned houses or hundred years. Its effects were felt globally.

Kutch and Saurastra: Thestreets instead of being buried with due rites. Imporin tant public buildings such as the Great Bath went

Kutch is not as extensive, but is telling in its own
way. There appear to have beenout of use. Some stone sculptures were deliberately
disastrous
smashed. Marshall and Mackay found that Late
events at Surkotada in the late period of occupa
Harappan period houses showed marked differtion. Between IB and IC levels, IC being the last,
ences from the earlier ones. Those built now had
there is a thick though uneven layer (30 cm thick
entrances
differently
placed,
with
old
doorways
on the citadel mound, 70 cm in the residential
blocked. Houses in DK-G had been partitioned, as if
area) of ash, the sign of 'a huge conflagration'
families were splitting; this meant, for example, that

(10) in all parts of the site. Perhaps this was not a a well in a large residential structure was now dinatural fire, for during the next period, IC, the rectly accessible to only one of the family subdivicitadel defenses were made truly secure. The sions. An entrance could be narrowed down from a gateway complex was rebuilt as a strongly guarded and restricted entrance system. Inciden width of 1.2 m to less than 60 cm or 2 ft. Clear signs of decay are apparent in the fact that walls are now tally, IC was a shallow stratum less than a meter

thin, perhaps no longer bearing the weight of upper
in depth whereas IA was in places 4.4 m storys, with odd-sized bricks laid in the most hap
thick.There are about half a dozen minor jewelry
hazard of ways. The huge residential building or caches in IC, four of them in buried pots. Some 'Palace' of DK-G area was, in the Late Harappan
new kinds of painted pottery appears. As for Dho
phase, not only subdivided but this locality was lavira, the magnificent site on Khadir Island in thetransformed into an artisans' quarter. Meanwhile, on
Rann of Kutch, the last three strata, V to VII, rep
the citadel, the Pillared Hall, a beautifully paved
resent a general decline, punctuated by a short
structure for which five courses of baked brick, most desertion of part, at least, of the settlement.These
accurately cut and set, had been used, was in the levels see new ceramics, a shrinking of the inhab
Late period partitioned by rough brick walls and utilited
area,

jerry-built
structures, ized at least in part for
shankh

and,finally in shell cutting work. stage VII, before abandonment, round one-room We have therefore been alerted to the possibility houses - this is the most rudimentary of housethat city life at Mohenjo-daro was not as good in the forms.Late period as it had been earlier, at least not in the public realm (2).In Gujarat the transition to Late Harappan

An intriguing indicator of social change in
began early, perhaps by 2100 BC. This region the Late Harappan period at Mohenjo-daro is the had always maintained a degree of local distinctappearance of the pointed goblet (see the figure iveness: for example, pottery styles characteristic
below). These were carelessly turned on the wheel,
of the Early and pre-Harappan periods, such as their height varying 7 to 10 cm with a pointed base. Prabhas ware, continued in use alongside Mature
They were not meant to be stood upright on floors
Harappan pottery. Sites like Lothal had been fully
or shelves when full. The deep scoring around the
integrated members of the Indus ecumene; oth
shoulder shows that such pots were to be tied with
ers, such as Somnath, less so. By the end of the
string in order to be carried around.

third millennium, however, even previously well AIthough present in large numbers at cities like Harappa and integrated sites such as Lothal were beginning to

Mohenjo-daro, and known at Amri, they are practi

drop out of the Mature Harappan way of life. Incally absent in the peripheral towns like Lothal and stead of high-quality flint brought in from the Rohri

Shortughai (2).Hills in Sindh, stone tools were now made of localAt Chanhu-daro one does not see the
stone such as jasper and agate. Mature Harapenormously high walls because people did not raise
pan pottery declined in quantity and was replacednew sections over standing ones in a continuous
by an increased quantity of traditional local wares,
process as at Mohenjo-daro. This is probably sigsuch as Prabhas ware, and by new wares, in parnificant. There are three Mature Harappan building
ticular Lustrous Red ware, a bright red ceramic
levels and level II and I structures show completely
that became dominant in Gujarat sites like Rang
different wall alignments and orientations to those pur during the early second millennium and thatbeneath them. There were junctures when parts, at
was later also used farther afield in the Deccan,
least, of the town were left unoccupied. For examreflecting trade, population movement, or both.
ple, between II and **III** there is a 4-foot layer of rubOther typicalbish, dust, rubble and potsherds. How long such

such as stone weights, inscribed seals, and even

abandonments lasted we cannot tell, but they were beads, disappeared. In contrast, copper continlong enough for structures to decay. These abanued in use, perhaps reflecting the development of450close trading relations with the Chalcolithic cul

tures to the east of Gujarat, Ahar-Banas, JodhpurGaneshwar, and Malwa. Significantly, a number of the copper objects are of types known not in the than has been given to the history of the town, even if they were for short spells. Together with this comes evidence of metal hoards and numerous Indus Civilization but in the Chalcolthic cultures ofunfinished manufactures such as saddle querns, mace-heads, and shell artifacts (2).

Rajasthan and the Deccan.
In southern Sindh, Amri lies in the zone
The regional city of Dholavira declined and
where the hills of Sindh Kohistan abut on to the
was then abandoned. It was re-occupied after west bank of the Indus, and Chanhu-daro 15 km
perhaps fifty years as a small settlement of poor
east. In 1979 Casal elaborated on the sequence at
quality houses that lasted for about a century bethis site with an interesting perspective on the his
fore again being deserted. At many sites, such as tory of the two neighboring settlements of southern
Rangpur, brick architecture was abandoned in
Sindh (17). At Amri there were five strata with
favor of other styles of construction: wattle and
Harappan material, with a few changes in pottery
daub with a wooden framework, or stone founda
from one to the next. In the uppermost (level C) tions on which walls were built of mud, and in **III**
of these strata occurred the pointed-base scored
most cases thatched roofs. The construction ofprobablygoblet together with Jhukar sherds,bathrooms and drains ceased. The warehouses at
brought by intruders, Casal said (17). But this stra

Lothal went out of use. This certainly reflected a tum, **III** C, was the only Mature Harappan level with civilizational decline and not “a change of emphabaked brick construction in the Harappan mode, sis”; the urban aspects of the Indus Civilization with cubical weights, writing, and an uninscribed

seal (17). It haswere replaced by a much less complicated exisparallels with Latetence. ceramic
Mohenjo-daro. Casal therefore believed that Amri



A late Harappan house in Gujarat with reused pillar members, (c. 1900-1500 BC)
was a poor and insignificant settlement to which
The Mature Harappan character of Lothal
people of the richer Chanhu-daro had fled; that

seems to have ended around 2100 BC, and the there had been quick abandonment of Chanhu-daro succeeding occupational phase is characterized due to raids, butthat atby new form of pottery and style of painting inhill raiders squatted

Chanhu-daro before moving on to Amri where they

cluding animals of striking naturalism. The evimixed with the local people and then went on to dence at Surkotada in eastern Kutch is not as Mohenjo-daro and Jhukar (17). Casal associated extensive, but is telling in its own way. There apJhukar pottery with raiders from Baluchistan be

pear to have been disastrous events in the latecause, according to him, this ceramic also occurs at
period of Harappan occupation. Between IB and
sites like Periano Ghundai; but there is also a similarity
between
Jhukar
IC levels, IC being the last, there is a thick though
pottery and that of pre
uneven layer of ash, the sign of 'a huge conflagra
Harappan Amri even though Casal saw it as a mixtion', in all parts of the site. Perhaps this was not a ture of Indus and Baluchi elements.
natural fire, for during the next period, IC, the
This is an attractive hypothesis although it citadel defenses were made truly secure. The remains for us to confirm the relative chronology of gateway complex was rebuilt as astrongly
guarded and restricted entrance system. Incidenthe two settlements, and although Amri would be a
more logical first halt than Chanhu-daro for raiders tally, IC was a shallow stratum less than a meter from the Kohistan. At Amri, too, we have seen that

in depth whereas IA was in places 4.4 m thick. There are about half a dozen minor jewelry caches in IC, four of them in buried pots. Some new kinds of painted pottery appears.

While some settlements were abandoned, some settlements experienced an expansion. The earlier half of the second millennium also saw a considerable increase in the number of new settlements. This probably reflects the change to new crops: Mature Harappan agriculture had used wheat and barley as the staple crops and in Gujarat native millets had also been important; now bajra and jowar, drought-resistant millets that were high yielding, free threshing, and well suited to the environment of Saurashra, became increasingly important. Rice may also have been cultivated at some sites, such as Rangpur, but there is no solid evidence for this assumption.

Apart from Lothal, there are Rangpur, Somnath and Rojdi where the subsequent development can be found. These three sites give a complete sequence from the Mature Harappan period down to the arrival of iron. The distinctive Harappan form of pottery now disappears and new painted motifs are found. Lustrous Red ware makes its appearance and in the final phase lustrous red ware becomes a common pottery. The evidence at Surkotada in eastern Kutch is not as extensive, but is telling in its own way. There appear to have been disastrous events in the late period of Harappan occupation. Between IB and IC levels, IC being the last, there is a thick though uneven layer of ash, the sign of 'a huge conflagration' (29), in all parts of the site. Perhaps this was not a natural fire, for during the next period, IC, the citadel defenses were made truly secure. The gateway complex was rebuilt as a strongly guarded and restricted entrance system. Incidentally, IC was a shallow stratum less than a meter in depth whereas IA was in places 4.4 m thick. There are about half a dozen minor jewelry caches in IC, four of them in buried pots. Some new kinds of painted pottery appears (1).

In addition to the expansion of some previously occupied settlements, the earlier half of the second millennium saw a very considerable increase in the number of settlements in Gujurat. This probably reflects the change to new crops: Mature Harappan agriculture had used wheat and barley as the staple crops and in Gujarat native millets had also been important; now bajra and jowar, drought-resistant millets that were high yielding, free threshing, and well suited to the environment of Saurashra, became increasingly important. Rice may also have been cultivated at some sites, such as Rangpur.

The proximity of Kutch to lower Sindh accounts for a greater number of Mature Harappan sites there than in Saurashtra. The best evidence of the Late Harappan comes from three sites - Rangpur, Lothal and Surkotada in Kutch. At Surkotada, Period IE of the occupation sequence is Late Harappan, demonstrating a quantitative decrease of characteristically Mature Harappan materials of Period IA. There is also a marked increase up to 70% of Coarse Red Ware which is found in association with white and black painted polychrome pottery. The last levels of Surkotada IC, are dominated by the white painted Black-andRed wares with very little presence of the Harppan tradition in ceramics. Comparable evidence of change from the Mature to Late Harappan comes from Lothal B, and Rangpur lIB and IIC, associated also with the Lustrous Red, painted Black-and-Red and Coarse Red Wares which quantitatively increase during the subsequent Period III at Rangpur.

The Harappan Period in Gujarat has a long list of labels: Rangpur, Degenerate Harappan, Post Harappan, Post Urban Harappan and more recently, Sorath Harappan, Prabhas Harappan and Gujarati Harappan! The classic Mature Harappan in Kutch, located close to the southern Indus Valley, is now beginning to be labelled as "Sindhi Harappan". (If such a regrettable archaeopolitical frenzy continues, the list would be even longer!). One of the reasons for various terminologies appears to be

the reluctance to accept a type-site for an initial framework such as Lothal or Rangpur. Viewed from the lower Indus Valley in Pakistan, it would appear that Lothal and Rangpur remained in contact with the lower Indus Valley until the Late Harappan (Jhukar) Period. A number of potsherds in Jhukar style came from Lothal A. Similar situation is evident at Rangpur where the Jhukar pottery first appeared in Period IIA. On the other hand, certain Late Harappan pottery forms that were very characteristic of Saurashtra during the Late Harappan Period reached as far as Lohumjo-daro where Louis Flam recorded a typical stud-handled bowl with Jhukar pottery. The archaeological evidence is suggestive of linking, if not equating, Jhukar of lower Sindh with Lothal AB and Rangpur IIA-IIB of Saurashtra during the Late Harappan Period. The contacts were mutual and not one sided emanating from the lower Indus Valley alone. Although both the regions took a different course of cultural development subsequently, an initial interaction was marked by more than casual contacts.

The subsequent period has been described as 'revival' by the excavators. Mud-bricks were once again in use. Some further distinctive Harappan form of pottery now disappears and new painted motifs are found. Lustrous Red Ware makes its appearance and in the final phase Lustrous Red Ware becomes a common pottery. The stone-blade industry gave way, in all the subsequent phases, to a blade industry of Jasper and agate. Copper tools are found throughout. Cultivation of rice is evidenced from Rangpur. In Saurashtra and Gujarat, with the end of the Mature Harappan period, local cultures continued to flourish.

Changes in Agriculture: One of the most important economic development in Pakistan during the Late Harappan period is the introduction of *kharif* crops, especially the millets (particularly *bajra* and *jawar*) and rice to the people of the Indus Valley. It yielded greater amounts of edible grains, it provided ample fodder for the cattle, and it rendered the food production on marginal lands. It must be noted, however, that the only real evidence for this comes from the archaeobotanical sequence from MehrgarhNausharo-Pirak. It argues for an agricultural transformation on the southern and eastern fringes of the Harappan Civilization, facilitated primarily by the African millets, possibly from the West, and the arrival of 'Asian' millets, possibly from the East. This *kharif crop* revolution opened up new zones to extensive agriculture as opposed to the intensive, presumably irrigated, Harappan system. The first adoptions of these crops, along with rice, in the Harappan core area may date of after 2000 BC. Meadow has suggested that these hypothetical Late Harappan cropping transformations are part of a broader economic revolution. This would have included new livestock species that facilitated transport and communication, namely horses, donkeys and camels. This transport revolution may have facilitated the migration of Harappan agriculturalists into areas where the new crops could be exploited.

Environment evidently played an important role in shaping and, up to a certain point, promoting changes in the Harappan economic and sociocultural systems. The changes in the GhaggarHakkra drainage system must have had tremendous repercussions on the agricultural productivity of one of the cardinal areas for the production of wheat and barley, and one of the most heavily populated Harappan regions. The vagaries of the bed of the Indus River could have played some role in diminishing the importance of towns left too far away from the main course (Mohenjo-daro?) or heavily inundated during the floods. Global and regional scale climatic changes would also have had some effect on the environments of the Greater Indus Valley. These effects might be reflected in some of the adjustments produced by the Late Harappan societies during the second millennium BC. However, the comparison of environmental data - even if scanty - and the PostUrban archaeological assemblages found in the Greater Indus Valley give evidence that an explanation based only upon

environmental determinants is simplistic and unrealistic.

Chronology: The chronology of the decay and demise of the Harappan Civilization is pretty much in dispute, as is its beginnings. Many aspects of the problem are related to the almost casual definition of the “Harappan”, sometimes innocently but often times deliberately, by some archaeologists, such as Lal, Rao, Joshi, Dishkit, and their students, who have excavated in Gujarat and the Divide. Some western archaeologists, particularly Possehl, Kenoyer, Meadow, and before them, Dales, are also casual in their approach and have unwittingly followed the Iead of the indigenous scholars of India. There is the Early Harappan (the pre-urban period of the Indus Age), there is the Harappan (the Mature phase) and there is the Late or post-Harappan (posturban cultures) and they are not the same. Obviously, as long as the criteria of the Harappan Civilization is not fixed and consistently adhered to, there is no hope that the date on the tail end of the Harappan Civilization could be fixed in any meaningful manner.

Another difficulty in the chronology of the Harappan Civilization is that it did not disappear suddenly, and many elements of this civilization can be found in later cultures. Some archaeological data suggest that material culture classified as Late Harappan may have persisted until at least ca. 1300 BC and was partially contemporaneous with the Painted Grey Ware culture. Recent work at Harappa has clearly demonstrated that during its late phase, from 1900 to 1500 B.C., Harappa was indeed inhabited.

Now, at what point in time, the Harappan Culture ceased to exist and what are the criteria for determining this point? Some archaeologists have emphasized that, just as in many areas of the world, there was a continuous series of cultural change, without any cultural break. If that is so, then the whole idea of Indus chronology goes out of the window. The succeeding occupations with fading Harappan tradition lingered on well into the early first millennium B.C, overlapping at some sites with the Painted Grey Wares (PGW). It is difficult to propose even an approximate date for the end of Mature Harappan or the beginning of the Late Harappan in the Punjab because of variations in their suggested time. If we group the dates from Cemetery H related sites and consider them with the changes in the river courses of the Ghaggar-Hakra, one gets an impression without actual proof at present, that change or transformation to the Late Harappan in the upper Indus Valley might have taken place earlier than in Sindh, most probably beginning between 2200 and 2100 B.C.

In spite of the above misgivings, the fact remains that a large number of settlements in the core area were abandoned within a short time, roughly around 1800 BC, and around this period the Harappan Civilization as an urban society came to a virtual end. This date is supported by the fact that the Mesopotamian literature stops referring to Meluhha by the end of 1900 B.C. The site of Harappa indeed continued to be inhabited but it shrank from a large city to one of a small, insignificant village. Signs that drain and city walls were not maintained provide proof of a breakdown of civic order. The Harappan remains also suggest that the ruling elites were no longer able to control the day-to-day functioning of this former urban center. Houses made of old dilapidated bricks and shoddy construction encroached upon the roads and streets of the towns. Flimsy partitions sub-divided the courtyards of the houses. The cities were fast turning into slums.This loss of authority must have eventually led to reorganization of society, not just in Harappa but throughout the entire region that the upper classes had dominated for 700 years.

Adetailedstudyofthearchitectureof Mohenjo-daro shows that many entry points to the 'Great Bath' were blocked. Sometimes later the 'Great Bath' and the 'Granary' fell into total disuse. At the same

time the late levels (i.e. later habitations) at Mohenjo-daro showed a distinct reduction in the number of sculptures, figurines, beads, bangles and inlay works. Towards the end, the city of Mohenjo-daro shrank to a small settlement of three hectares from the original eighty-five hectares. If we take these criteria to designate the end of an urban culture, then we should not have any qualms to fix an approximate date of the “end” of the Harappan Civilization as 1700-1800 BC.

Similar changes were taking place during the same time period elsewhere. A detailed study of the architecture of Mohenjo-daro, for instance, shows that many entry points to the 'Great Bath' were blocked. Sometimes later the 'Great Bath' and the 'Granary' fell into total disuse. At the same time the late levels (i.e. later habitations) at Mohenjo-daro showed a distinct reduction in the number of sculptures, figurines, beads, bangles and inlay works. Towards the end, the city of Mohenjo-daro shrank to a small settlement of three hectares from the original eighty-five hectares. If we take these criteria to designate the end of an urban culture, then we should not have any qualms in fixing an approximate date of the “end” of the Harappan Civilization as 1700-1800 BC, in the core area at least. The decaying process in the Indus sites in Kutch and Gujarat was somewhat different, it started a little later and prolonged a little longer. In fact, here the process seemed more like a ‘transformation’ rather than an end. Keeping in view these observations, we may bracket the ‘Late Harappan’ period between 2000 and 1800 BC in the core areas and probably between 1900 and 1700 BC in Kutch and Gujarat.

With the weight of new data from the undivided Punjab, Sindh and Gujarat, the old paradigm of uniform end of the Harappan Civilization is no longer valid (13,30,31). It is rightly pointed out by several scholars that the cultural change from the Mature to Late Harappan was not "evenly paced in all regions" of the Indus Valley Civilization, nor its outcome was homogeneous. Following them, Allchin (4) repeats these observations. However, it is still not very clear at what point in time the change or 'transformation' from the Mature to Late Harappan took place and therefore, each region has to be studied separately. The situation is further complicated at the sites where archaeological contexts show overlap between the Late Harappan occupation and the settlement of Iron Age or of later period. A series of radiocarbon dates are needed from the sites of both the Mature and Late Harappan occupations to determine the beginning and end of the Late Harappan in the principal areas and also the timing of change or transformation in each region.

In the lower Indus Valley, a single C-14 date from the upper or late Jhukar levels of Mohenjodaro falling between 2165 and 1860 B.C. (calibrated) is insufficient, but it does give an approximate time when changes in the material culture occurred. It would appear that in the lower Indus Valley, the changes marked by the appearance of Jhukar style pottery might have begun around 2000 B.C.

The date of Late Harappan Cemetery H related sites in the upper Indus Valley is difficult to work out because of absence of radiocarbon dates from the upper levels of Harappa. The terminal date of Harappa is not yet known. Kalibangan II (Mature Harappan) has provided a series of 24 dates, the minimum range of which falls between 1540 and 1240 B.C. (14). The Mature Harappan occupation of Banawali II, dates between 2555-2285 and 1700-1415 B.C. on the basis of a series of four calibrated dates. The Cemetery H occupation at Bara I has given the longest range of the two C-14 dates which comes to 1585-1330 B.C. and 1980-1690 B.C. Their upper limit falls between 2330-1957 B.C. and 2335- 1885 B.C. From another contemporary site, Sanghol, four Radiocarbon dates range between 2175-1715 B.C. and 1785-1560 (?) B.C. The available dates from Cemetery H related Late Harappan sites may vary greatly especially at the beginning of occupation and so are the dates of the terminal

period of Mature Harappan. On the basis of lowest dates, it is proposed that the Late Harappan Cemetery H occupation period ended in the Punjab sometime between1700 and 1500 B.C.

As already stated, the Late Harappan in the upper Indus Valley was known from Harappa where a cemetery in area 'H' revealed a distinctive group of burial pottery in two strata, also found at the upper levels of Citadel Mound AB. The explorations in Cholistan revealed 50 sites associated with Cemetery H type of pottery while further eastward in the Indian territory, the 'Late Harappan' (not necessarily Cemetery H related) occupation is reportedly found at 563 sites. All the sites are not fully published but the summary reports clearly demonstrate that identification or description of 'Late Harappan' in east Punjab, Haryana and Rajasthan is not entirely applicable to the Late Harappan materials of the Pakistani Punjab which are all comparable to Cemetery H. Looking from the Pakistani side, there seem to be two distinct but overlapping assemblages in the Indian territory which are generally labelled as Late Harappan. The Cemetery H related materials found in northern Rajasthan and Indian Punjab seem to be a part of Late Harappan phenomena represented at Harappa, Chak Purbane Syal and 41 (out of 50) sites in Cholistan. The Late Harappan Cemetery H related occupation at Sanghol, as already pointed out, has provided a time range between 2175-1785 and 1715-1560 B.C. (Calibrated) by four Radiocarbon dates, except the fifth one which gives a wide bracket of 2410-1945 B.C. A date beginning about 2000 B.C. and continuing until at least about 1700 B.C. for the Late Harappan, would be consistent with the comparable archaeological evidence from several sites in Pakistan and India. It is however pointed out that further to the east in the Doab and the IndoGangetic Divide, there appear to be a later expansion in which few Harappan pottery forms, if any, are found to be present and are spread over a very large territory. The scantily published accounts of these very late sites, if illustrations are anything but representative, show modified Harappan pottery shapes as if to indicate survival of a tradition. Two such very late sites are Dadheri and Bhagwanpura (32).

Concluding Remarks: While the final phase of the Harappan Civilization is not clear and still very imperfectly understood in detail, this much is clear: the historical processes impinging on Harappan life in the early second millennium were complex, varied and paced at different times in different regions. What is equally clear is that, in their interrelated totality, they had a stunning effect on the Indus peoples. What had once been an ancient urban system, was much altered in terms of the complexity of organization. The major urban centers were no longer functioning as organized cities. If there was occupation within their bounds it is best characterized as squatters' abodes. Signs of writing, long distance trade, architecture, most craft specialization, all were in disarray or disappearing altogether. The unified system of weights and measures of the Mature Period of Harappan Civilization disappears along with the inscribed stamp seals, seemingly the property of an elite population. The large differentiated settlements, such as Harappa and Mohenjo-daro, broke down into 'squats'; where public architecture, workshops and domestic quarters were clearly demarcated; they are no longer found.

What archaeologists see when they examine the Greater Indus region in the early second millennium are abandoned or dysfunctional Indus cities, *wasserluxus* has vanished, and gone is the technological virtuosity of the Indus Civilization. Of the latter, Vidale and Miller note: "An important change occurs during the ... [Late Harappan]. With the end of the Indus way of life, and the extinction of many typical expressions of Indus material culture, many elaborated crafts ... are extinguished, together with the basic information technology of the urban rulers, writing." (35). The stylistic features of the Indus Civilization that were the sign and symbols of these peoples are also gone, or considerably altered:

the painted pottery style, for example, and the stamp seals, writing, the distinctive Indus terracotta figurines, amulets, some of the ideology was probably preserved in some areas, but for a short while and in an attenuated form that is the characteristic of falling civilizations.

The cultural change or transformation that occurred during the second millennium in the Indus Valley is surely one of decline in the core area but it was also of some regional developments in the periphery. New political foci appear in the north, in the Pashtun country, and Central Asia. Some of the shifts might be explained by coreperiphery models (27,36,37,38) which were helped along by the concomitance of environmental changes, regardless of whether they were induced by global changes, or human impact. In the core area of the Harappan Civilization, power may have been too consolidated to allow for new social, political and possibly religious ideas, whereas the periphery may have offered the ideal setting for the emergence of new indigenous polities and a new urban process (27). The process of de-urbanization in the Indus Valley was certainly facilitated by hydrographic and climatic changes (even of local scale), but it is hard to see these as driving and determining the course of change. The new environmental conditions of the southern portion of the Indus Valley might have also forced some movement of population towards the Southeast and the Northeast. Within this context of decentralization and population relocation, additional crops, such as millets and pulses from peninsular India or those from Africa, become more widely available, although their separate adoptions should be seen as local choices rather than some nebulous 'revolution' over a vast area. In some areas, such as in Gujarat and eastern Punjab, these monsoon watered crops may have allowed for more local subsistence independence, and such adaptation may have both decreased the need for and the maintenance of the interregional 'safety net' presumed to have been so important for the establishment of Harappan urbanism (if such a system indeed existed).

From the archaeological observations it is clear that the disintegration of the Harappan Civilization took place at its heart, the ideological core: urbanization, *wasserluxus*, technological prowess, sociopolitical structure. The Late Harappan or the terminal stage of the Harappan Civilization is a moment of considerable importance, since it can be seen as the beginning of the end. Over the next two or three centuries there was a progressive deterioration of urban life and sociocultural complexity at Mohenjo-daro, Harappa, and in the Indus Civilization generally. The symbolic value of water fades away; brick-lined wells, the metropolitan drainage system, and bathing platforms are no longer constructed. The iconographic themes of the ideology of the Indus Civilization are slowly lost: figurines, pottery, seals, and other glyptic items. Technological innovation comes to a virtual end, and much of the Mature Harappan high technology is no longer used: baked-brick architecture, drainage systems, seal cutting, etching carnelian, drilling of long carnelian bead stoneware bangles. Some technological innovations such as bronze and faience survive, but they are in the minority.

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Chapter IV.2

Chapter 6The Decay and Demise of the Indus Civilization* Post-Harappan Landscape

occupational specialization. Population con
chapter ended. Our focus will be on several lo

tracted, a large number of settlements, including calized archaeological cultures which were

some
newer,
emerging throughout the greater Indus Valley and
Harappa and Mohenjo-daro, were abandoned, but and simpler settlements the
adjoining
smaller,
areas of the present-day India. Spearheading
this
process
were established. While there was continuation of were primarily thelife, there was also much change. The people
pastoral nomads which were trickling into the In
seemed to adopt new customs and living habits,
dus Valley from the West. One such tribe was the
their beliefs apparently changed, and what little
so-called Vedic Aryans. We know about their way
we know about this period, some new peoples
of life through their religious hymns which they
started to make inroad into the Indus territories
composed in eastern Afghanistan, the Pashtun
and under their influence the Indus languages countrty and Punjab and orally transmitted to their
and culture started to change. Gone were the
next generations. These poems were eventually
town planning, gone were the sewage system, put to writing as the Vedas, the RgVeda being the
gone was the script, gone were the peculiar Indus
oldest such collection. There was another group

seals, and gone was the Indus style in pottery form and decoration.living on the western peripheries of Pakistan; we know of these people also through their religious

The archaeological phenomena we identify book, the Avesta. Like the Vedic p[eople, they
as Harappan - baked brick houses, steatite seals carved
in
also called themselves the Aryans or a name
intaglios with high, pierced bosses, similar to it. We would call them Indo-Iranian or
weights of a specific and uniform standard, long Avestan people. They were figuratively the cous
cylindrical carnelian beads, and sturdy red pottery ins of the Vedic people: the language of the
in a set of recognizable shapes among other feaRgVeda and the Avesta is very similar, some of

tures - cease to appear in the archaeological re
their deities are common, and both are pastoral
cord of the centuries between about 1900 and 1700 BC.
nomads. These people may have made forays in
Cubical weights for trade fell into dis
the border areas of Pakistan, as the Avesta does
use, and the international trade networks began mention a land of seven years. Apart from these
to deteriorate: there were no more trade caravans
two ethnic groups, we do not know much about
going northward and there were no ships sailing
other peoples who may have made inroads into
to Delmun or to Mesopotamia. Shells from the
Pakistan. They did not leave any textural evi
coastal regions no longer made their way to the
dence for us; we detect their presence in Pakistan
northern sites, and lapis lazuli from the north through archaeology.failed to reach the sites in the plains. In Mesopo
There is not much written on this time
tamia the texts that had recorded ongoing trade with
a
region
called
period and whatever space is available has been
Meluhha, which is most
taken up by Vedic studies of little historic signifi
probably the Indus Valley, no longer mentioned it.
cance. In the preparation of this chapter we take
Additionally, a very large percentage of Harappan
advantage of Ratnagar's discussion on the con
villages and towns were deserted during or before tinued connection of the Indus Valley with the
that period, so that no vestiges of subsequent
area to its West (1). A.H. Dani provides an excel
cultures are to be found at them..
lent and quite detailed discussion on the settle
Thedisintegrationoftheurbanculture ment of some pastoral tribes in the hilly flanks of
means the end of an integrated and complex so
the Indus plains and their role in initiating a cul
cial, economic and political network, carrying with tural change not only in the Greater Indus Valley
it a decline in social stratification, erosion of ecobut also throughout northern India (2). Chitalwala
nomic specialization, the eclipse of regulatory in(3), Santoni (4), Heine-Gelden (5), Misra (6),stitutions
and the flow of information, the city life
Mughal (7) and Possehl (8) provide additional
that embodies the sophistication of the civilization,
information. Rajesh Kochhar (9) has discussed
and, ultimately, what Tainter (1) calls the epiphethis period in context with the Vedic People.

The Indus Civilization flourished for about
In the last chapter we took note of the five hundred to seven hundred years. In the late
terminal stage of the Harappan Civilization. This third millennium BC it started to wilt and shortly
was a transitionary period when the urban centers
after came to an end. This process was marked
in the Greater Indus Valley were rapidly decaying by the disappearance of the features that had dis
and the Harappan people were reverting to a way tinguished the Harappan Civilization from its of life
which was essentially rural. Some of these
predecessor cultures: writing, city dwelling, some
cultural changes were probably happening under kind of political control, regional and international
the impact of new people, most likely some pas
trade, occupational specialization, architecture,toral nomads from the West who were encroach
and widely distributed standardized artifacts. The
ing upon the western front of Pakistan, that is,
cultural uniformity of the Mature Indus Civilization
parts of Baluchistan and the Pashtun country. gave way to a number of regional groupings, of
Some of these people were seemingly intruding ten using material reminiscent of that belonging to
as far as the Pothwar region. In this chapter we
the Early Harappan phase in each area. While
continue this discussion but concentrate on the
there was considerable depopulation in the Indus
cultural landscape that emerged at the end of this heartland, settlements increased in number in
transitionary period, that is, after the disappearGujarat and the Indo-Gangetic Divide, and other
ance of almost all vestiges of the Indus culture.
communities were established in areas well out
These new cultures were by no means a resurside those occupied by the Mature Harappan

gence of the old, pre-Harappan orders but rather people. a prelude to a synthesis of an entirely
different Early in the second millennium BC, bykind of social and political structure. One common
about 1800-1900 BC, the city of Harappa and its

theme underlying these developments was its
interregional
connection,
especially
with counterpart in Sindh, the grand city of Mohenjo
north
daro, were no longer functioning urban centers.

eastern corner of Iran, northern Afghanistan, and
The urban life as a complex socioeconomic sys
Central Asia generally. Large and multidirectional tem disintegrated, replaced by a simpler exis
movements of pastoral nomads from the West, tence. Human life continued on the Indus plains
and the settlement of some of these tribes in the
and the hilly slopes of the surrounding area but
hilly flanks of the Indus plains is one of the char
the people were no longer organized by class and
acteristics of this period. The Aryan question is
intimately connected with this scenario.
Like the urban-rural transition discussed
*This chapter is partly based on Shereen Ratnagar's
The End of the Great Harappan Tradition
The archaeological cultures appearing in
, published in 2002
in the last chapter, our discussion in this chapter the western parts of Pakistan - Baluchistan; west will be based entirely on
archaeological evidence. ern Sindh; Swat, Dir, and Chitral; Gomal Valley,The discussion takes off from where the last

353 and Pothwar are particularly important and these should be viewed in light of the intrusion of nomadic pastoralists from the West, the Indo-Aryans being one of these peoples.The reason why more space has been given to certain regions is not necessarily because they were more important, but because they have been more intensively studied. Full published reports are available for comparatively few sites, and there are some regions for which properly worked-out archaeological sequences and secure dates are unavailable.

We designate this period of the prehistory of Pakistan as post-Harappan, although the regions discussed here were not the Harappan proper. It is a long period of time, almost a millennium, between ca. 1500 and 500 BC. Possehl calls this period post-urban and some scholar, especially in India, prefer to call it the 'Vedic Age'. Because of the scanty archaeological record and the absence of any reliable textural sources this

Fig. 1. Topographical map of Pakistan and the surrounding region, with important archaeological sites
'dark millennium' is equally valid, we prefer to use post-Harappan.

The reader must be aware, as discussed in the last chapter, that defining post-Harappan or post-urban, as opposed to Late Harappan, is not as simple as described above. The postHarappan sites have routinely been described as Late Harappan and a number of sites, which had nothing to do with the Harappan Civilization beyond the presence a sherd or two of Indus affiliation, have been touted as Harappan or Late Harappan. In the last chapter we defined the Late Harappan as the final phase of the Harappan material culture, while the post-Harappan was defined as the cultures wherein we no longer detect any significant presence of the Harappan material.

As though the difficulty in defining the postHarappan or post-urban period was not enough, there are some scholars who essentially deny the

existence of such a period altogether. For instance, Possehl, in the context of Gujarat, believes that the level of sociocultural attainments which existed throughout its Mature phase was "slowed down" in its

later stage, it was centrally less organized, less differentiated and less specialized than the Urban phase but it was still a continuum of the preceding cultural flow. He doubts that stratigraphic dead ends (the termination of a certain kind of material culture in the vertical sequence of a site) mean the end of a tradition:, "a state it was that died", he argued in 1979, "not the Harappan Civilization or its pottery and other material constituents". Similarly, Shaffer considered it a process of decentralization and localization which gave rise to regional cultural expressions rather than extinction of a precedent culture (10). Allchins go even further; according to them, "what is probably important in understanding the cultural development of the post



Urban phase is that throughout every

period is probably the most poorly understood part in the prehistory of Pakistan. Not much is also available in Afghanistan and very little in Iran.

The term 'post-Harappan' implies a break in culture, so does the 'post-urban'. Both terms imply the collapse of a flourishing urban civiliza tion. Each of these terms also suggests that the preceding urban phase was more in line with the idea of civilization while the post-urban or post Harappan phase was a poor reminder of this glo rious past. Both of these terms indicate that we are now dealing with a cultural period that has no substantial relationship with the preceding culture, that is, the urban phase of the Indus Civilization. Although the use of both terms to designate this province of the Indus Civilization, societies survived which, while losing the distinctive characteristics of the Indus Civilization, nonetheless retained a broadly 'Harappan' tradition in other respects" (11). These opinions, in effect, downplay the disintegration and the eventual end of the

Harappan Civilization and, instead, stress the continuity of the Indus culture into the early historic times. This line of thought is very much favored by some ‘nationalist” Indian archaeologists because it naturally connects the “Indian civilization” to the antiquity of the Indus Civilization.

On the other end of the spectrum, there are many archaeologists who see a clear break in Indus culture at the beginning of the second millennium BC. Such a break was first noted by E. J. H. Mackay in his excavations at Chanhu-daro, in the Late-Harappan Jhukar and Jhangar periods. The later French excavation at Pirak at the mouth of the Bolan pass in the Kachi plain of Baluchistan identified a 'Pirak Culture' that fills the gap between 1800 BC and the historical period in this region. In 1946, Sir Mortimer Wheeler produced stratigraphic evidence to separate chronologically the culture represented by Cemetery-H at Harappa. In 1971, in Gomal valley, a new type of burial was discovered, a type also found at Taxila in the Iron Age graves of Sarai Kala, and thus added a new variant on either side of the Indus river. This new material has been termed the 'Gandhara Grave Culture' by A. H. Dani and is attributed to the Dardic people by G. Tucci (12).

Despite some dissenting voices, we follow the majority opinion, that is, the Indus Age eventually came to an end and that it was followed by a cultural period which is definable on its own, with only a tangential relation with the urban culture that we identify with the Harappan Civilization. This post-Harappan period does not represent a unified or culturally integrated culture; instead, it represents a collection of diverse cultures with some ill-defined geographical boundaries but more-or-less confined within the same geographical areas where the pre-Urban cultures of the Early Harappan genre thrived prior to the mid third millennium BC. Our information about these post-Harappan cultures is limited but we shall nevertheless attempt an outline in the followings.

The Indus region is characterized by widely differing environmental conditions and these cultures assume different forms and characters in different parts of the country. Human cultures, after all, originate from life-styles adopted in response to the traditional, material and technological problems peculiar to different parts. It is natural that the hill zones of Pakistan, mostly lying to the West of the Indus River, should exhibit features that may be described as a hill pattern as opposed to the fertile valleys and plains where silt deposits enabled man to develop settled intensive agricultural systems. Even within the fertile plains variations are seen between the irrigated areas of Punjab and deltaic Sind, separated as they are by the great Indus gorge at Sakkhar and connected with the neighboring countries of the West and the East through their own particular passes and channels of communication.

The degradation of the Harappan Civilization started ca. 2000 BC and continued for two or three centuries, culminating by 1700 BC in most of the regions. At some point in time most of the Indus vestiges were no longer recognizable in the areas that constituted the vast expanse of the Harappan Civilization.This process represents the reversal of all the abstract criteria of urbanization as laid down by Childe (13) and discussed by Adams (14). It continued for some time and witnessed a continued decline in the civic standards well into the middle of the second millennium BC.

The original excavators of Mohenjo-daro, such as Marshall and Mackay, visualized the Indus Civilization as having come to an ‘end’ after the disintegration of major Indus cities in the early second millennium BC; the post-Harappan cultures, therefore, having no or little continuity with the material culture of the civilization before them. Dales observed that with the decline and the ultimate demise of the Harappan Civilization, the sophisticated Harappan traits were watered down to a large

extent by mingling with the impoverished local cultures, until what was once distinctively Harappan was diluted to the point of nonexistence (15). Several later scholars also saw a clear cultural break between the Harappan Civilization and the post-Harappan cultures that followed. Among these scholars is Ratnagar, who argued that, in spite of some visibility of the Harappan traits in later cultures, the civilization did indeed come to an end: “Certainly some pottery forms, oral traditions, village cults, and the rural sciences of land use entailing knowledge of seed types, animal behavior, and climatic conditions, did not go into oblivion. But however many such elements we count as 'survivals', they are not tantamount to an integrated Bronze Age political economy” (1). Also, “a stray Harappan sherd does not make it (the site) Harappan” (1).

The second point to note is that the postHarappan period does not represent a unified or culturally integrated culture; instead, it represents a collection of diverse cultures with some illdefined geographical boundaries but more-or-less confined within the same geographical areas where the pre-Urban cultures of the Early Harappan genre thrived prior to the mid third millennium BC. These 'chalcolithic'; small-scale, usually with small, one- or two-room cottages, very few crafts, a simple stone tool technology supplemented by a few forms of bone tools, and not many types of copper/bronze artifacts, often ornaments rather than tools, were represented by Swat Graves Culture in the Pashtun country, Cemetery H culture in northern Punjab, and Jhukar culture in western Sindh. Similar low-level cultural groups emerged in Gujarat, in Helmand Valley in Afghanistan, in Makran, and, of course, in the Divide. There were no great storage structures or distinctive sculptural styles, no fortifications in the true sense, not even communal wells.

At the same time, these post-urban cultures exhibited tremendous subsistence diversity in terms of eco-niches utilized, kinds of crops grown, wild foods eaten, animals domesticated, and so on. Crafts with large turnovers and steady output (pottery, for example) saw continuous development but not seal carving or inlaid ivory work or gold ornaments: such crafts would have been dependent on elite demand and state organization of imports of stones and metals. Besides, such crafts required the conscious cultivation of specific skills.

With these clues in mind we can now discuss the various post-urban cultures in the Greater Indus Valley and the peripheral areas around it. The description is restricted to those cultures that were located in the Harappan culture area and its margins. For the sake of continuity - from the Late Harappan to post-Harappan - some repetition of the material presented earlier is inevitable. Before we begin, however, it is pertinent to note the various aspects of the Harappan culture through which we define these post-Harappan cultures. These broad parameters include large size settlements, public architecture, long dis

Harappan and post-Harappan Settlement of the Hakra Plain *Post-Harappan*

Period
Harappan Period

50
28
13
38
233

8.3 sertion and its permanence (not desertions for a few years until recovery) that are significant. We do not, however, know over what length of time the various Harappan cities and villages were abandoned.
In Sindh, the indications are that some sites were abandoned around 2000 BC or in the following centuries and that the core of the Indus civilization began to disintegrate and come to an end shortly after. Not all sites suffered the same fate: Mohenjodaro petered out, while at nearby Jhukar and Lohamjo-daro, Chanhu-daro and Amri continued and built upon the remains of the Harappan. In the North, while a large number of villages were abandoned, the grand city of Harappa con

Total number of sites Habitation sites
Camps
Largest site (ha)
Total settled area (ha) Mean size (hectares) 174

83
9
41
450
5.5 tinued to exist, adopting a new culture and existing as a merely small village. A new Chalcolithic culture appears in Swat to the west of the Indus and several regional non-urban cultures sprung up in the east of Punjab. These cultural changes were not confined to the Indus Valley alone; similar changes happened on the borderlands to the west - in central Asia and Iran. An echo of these changes came from as far as Mesopotamia. As a result, several types of cultural assemblages tance trade, craft specialization, class hierarchy, state organization as well as diagnostic artifacts such as Indus seals, ceramic forms like goblets, perforated cylindrical jars and jars with 'S' profiles often decorated with intricate or naturalistic painted motifs. In addition, triangular terracotta cakes, kidney shaped inlays, long chert blades of Rohri origin, etc., also suggested by Childe (13) and Wheeler (16), are characteristic features of the Harappan settlements associated with the Urban phase. However, with renewed research on the above mentioned aspects of urban Harappan phase, it is clear that the presence or absence of these features would depend on multiple factors like location and nature of the settlements. The most striking aspect of the end of the Harappan Civilization is the desertion of the largest Harappan urban centers, and a majority of the smaller settlements. At the five largest settlements, Mohenjo-daro, Harappa, Ganweriwala, Dholavira, and Rakhi Garhi, there are no vestiges of post-Harappan occupation (except for Cemetery H at Harappa, to be discussed below). Of 132 Harappan settlements, on which information is available, 101 were deserted (1). Village or town abandonment is not in itself particularly mysterious.It has occurred often in history, because of repeated droughts in a region, or village epidemics, destruction of houses by flood, the wearing out of soil fertility, or the promise of better land elsewhere. In our case it is the scale of deoccur at the sites that are later than the Urban Harappan and to a large extent, culturally do not wholly conform to the former. These Post-Urban Harappan settlements exist in various regions and reflect different stages of development (3,10); some are the extensions of the Harappan occupation and others are new settlements.
Despite the regional differences, a few things are common: small-scale, usually with small, one- or two-room cottages, very few crafts, a simple stone tool technology supplemented by a few forms of bone tools, and not many types of copper/bronze artifacts, often ornaments rather than tools. As stated earlier, there were no great storage structures, or distinctive sculptural styles, no fortifications in the true sense, not even communal wells. There is no evidence of cosmopolitan interaction with other

societies.

Sindh and Baluchistan: An important area of our immediate interest in context of the postHarappan landscape is western Sindh, especially the Kachi plain. The Kachi is an extremely arid and inhospitable area immediately west of the lower Indus alluvial plain and lies at the terminus of a world route across southern Afghanistan and northern Baluchistan. On this tract, that was watered by the Bolan and other mountain streams, the mound of Nausharo has pre-Harappan as well as Harappan levels (I to III). Level IV, in parts eroded or disturbed by graves of recent times, has pottery in the Harappan tradition as well as Kulli-like round jars and painted goat friezes around pots. There are also Kulli-style clay figurines. In addition, there are 'trumpet-shaped' vessels with grooved rims and other elements reminiscent of those at Sibri (a site also located in the Kachi) and sites on the Bolan route.

The best-known site of this period, however, is Pirak, which can be dated from 1700-700 BC (17) or between 1400 and 1100 BC (10). Here a large settlement was established around 1700 BC. It was occupied until about 700 BC, with breaks in habitation between about 1400-1300 BC and 1100 BC. Many of the architectural styles and even pottery styles appear to reflect indigenous cultures that had been in the region since before the Harappan period. Square and circular stamp seals with geometric designs are similar to earlier forms from Mehrgarh and Nausharo, and have parallels with Jhukar seals from the Late Harappan period. The introduction of rice and the presence of horse and two humped Bactrian camel figurines along with riders at Pirak indicate new forms of subsistence and transportation. EvidenceconnectingBaluchistanand western Sindh with Greater Iran has been accumulating for a long time. But it is only now that it has become possible to place it in perspective. The most complete evidence comes from Pirak, The most complete evidence comes from Pirak, year span right up to the Iron Age. This span has been broken into three periods: I (*ca.* 1900-1300 BC), II (*ca.* 1300-1100 BC) and III (*caca* 900 BC). From periods I and II come distinctive figurines of two-humped camels as well as of horses and horse riders. The camel figurines had close parallel in the Murghab Delta. The horseman had bowed legs to fit them on the back of the horse. They had armless torsos and beak-like faces. The beaked horsemen appear to have been modeled on the eagle-man deity of the Murghamu culture in Central Asia. Camel and horse bones have been found, but unlike those of cattle, sheep and goats, they were rare. This suggests that the camel and horse were primarily used for transport and not as food items. The Pirak data furnish the earliest firm evidence for the domesticated horse in South Asia. Pirak has another first to its credit. It is the first site in Pakistan where rice was the major crop.

Because of the influence of new cultural elements, the old benchmarks like town planning, seals and script disappeared from the Jhukar phase. Pottery remained substantially the same, except that a large fraction was now given finishing touches by beating, after removal from the wheel. This later became a typical Indian technique. Not unexpectedly, new equations were more positively reflected in matters technological. There were new metal objects and the sudden appearance of circular or square stamp-seals of stone or faience. All these show parallels with Baluchistan and, further west, with Greater Iran and even the Caucasus.

In spite of the openness of Pirak to influence or migration from Central Asia, the site of Pirak has, in its entire sequence, produced no more than half a dozen beads of lapis lazuli. There is no turquoise either, though one pendant with turquoise and lapis is reported from a Mehrgarh cenotaph. It is only from about 1100 BC onwards that Durkhan, a site near Dadhar, 20 km west of Pirak, has a lapis lazuli industry that testifies to the resumption of the movement of this stone down the Bolan Pass. So, also, is the case with copper and bronze. The telling factor is that very few tool types in metal have been found. These findings go counter to the idea of a broad range migration or a series of raids on these hilly flanks from the west.

The houses at Pirak were very different from those of the Indus Valley; they were rectangular, often multiroomed, structures of mud brick, and lines of niches were set into the inside of the walls. A brick platform held the hearth, and reed matting covered the floor. The houses are of brick with reed matting on the floors. There is little metal, but the three periods of occupation together produced flaked stone tools by the hundreds. In period I (the earliest), there are artifacts reminiscent of the BMAC that comprise mainly seals of different shapes with projecting bosses. More important, there are bones and teeth of horses and two-humped camels. Both animals had been domesticated in Central Asia and mark their first presence in South Asia in substantial numbers at this site.

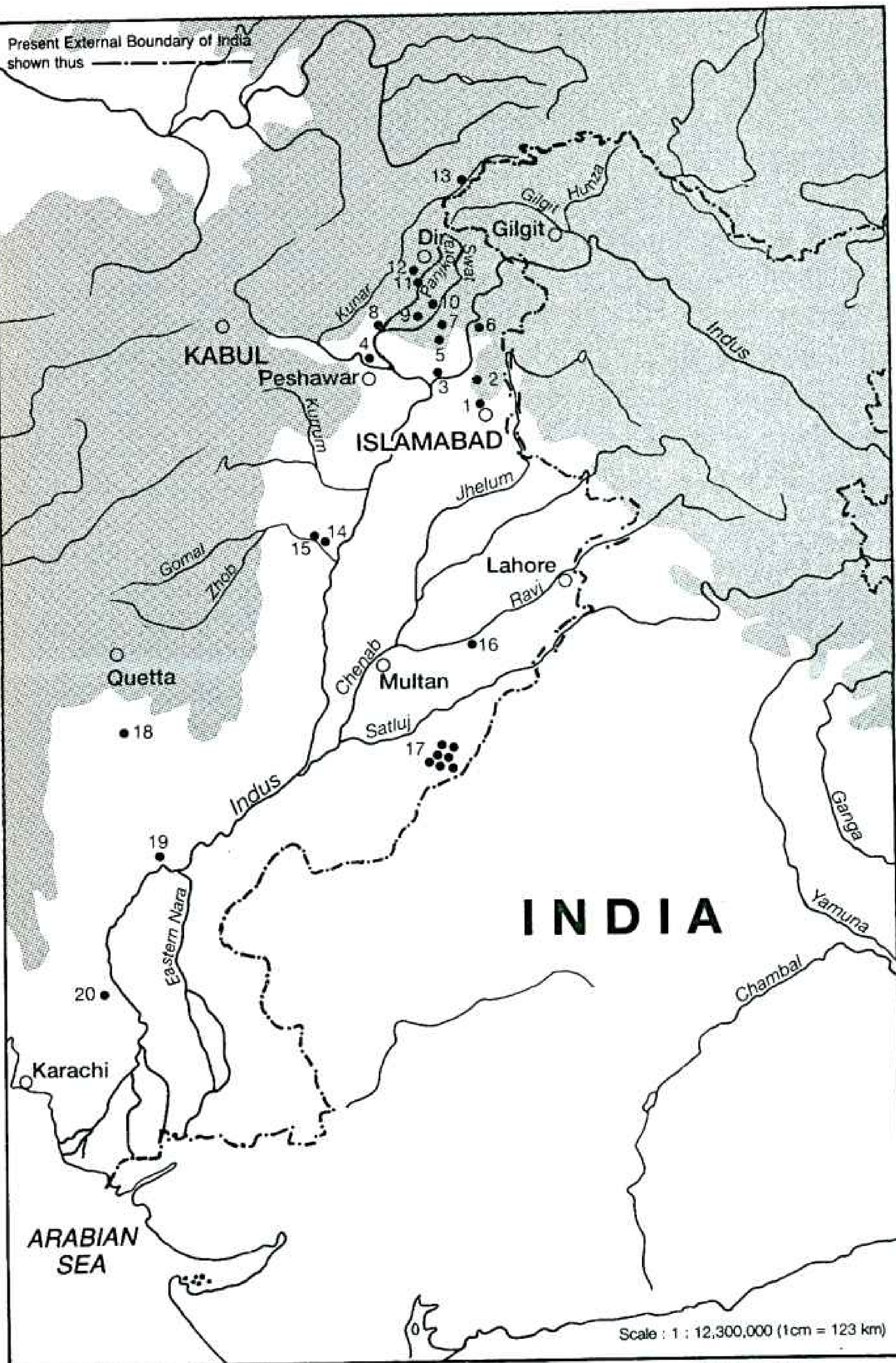
The association of horse with Vedic culture has led some scholars to see Pirak as evidence for intrusive communities entering the Indus valley from the northwest. However, it is important to note that the pottery and figurine styles of Pirak are restricted to the Kachi Plain and Baluchistan, and do not spread to other sites in the Indus Valley. This suggests that the cultural tradition of horse-using people represented at Pirak did not spread to the Punjab or to the Ganga-Yamuna doab and therefore cannot be linked to the Vedic society. However the use of the horse may have spread without any accompanying pottery either from Baluchistan or from a more northerly route associated with the Gandhara Grave Culture discussed below.

A cemetery south of Mehrgarh has revealed four types of funerary material: graves containing skeletons and grave goods; cenotaphs, with grave goods but no skeletons; isolated deposits of material either in pits or just lying on the natural soil; and large jars placed upside down, generally in association with one or two small jars. Near by lies the settlement site of Sibri with an area of at least one hectare. The archaeological deposit is no more than 1-1.5 m thick and some of the remains, especially fireplaces, are even visible on the surface. Mehrgarh south cemetery and Sibri define the Mehrgarh VIII period which differs markedly from period VII. There was now a distinct improvement in the quality of copper/ bronze artifacts as well as in their number. These objects, including a shaft-hole axe-adze, find ready parallels in objects from Greater Iran (9).

Sibri is a small, one-hectare site with a shallow deposit, comprising two architectural levels. The pottery produced here was coarse, and hand-made though there was some wheeltempered ware as well, each in a range of shapes. Many flaked stone as well as bone tools, several stones for grinding, and several terracotta figurines, including flat, violin-shaped female figurines of the sort seen also at Hissar, Altyn, and some BMAC sites of northern Afghanistan have been found here. Other parallels with the world to the west were a small stone column from the surface, bronze and stone compartmented seals, a bronze shaft-hole axe-adze, and pins. Most important, however, is the fact reported by Santoni (4) that the quality and number of bronze artifacts reported at Sibri and at the Mehrgarh South Cemetery is higher than that found at earlier sites. At Sibri, advances in metallurgy were accompanied by a decline in ceramics, the quantity of pottery decreased and painted decorations almost disappeared. In addition to the finer, wheel- turned pots, coarse, handmade pottery came into use. One can discern a duality of purpose in the production of pottery. Broadly speaking, fine wheel-made pottery was meant for the dead, even if there were other uses for it, while coarser handmade pottery was used in everyday life. The pottery shapes in both cases are similar to the ones in use in Central Asia. The most interesting finds from Sibri are the seals which are of two types. The principal kind is the compartmented seal made of bronze or stone. Three of these are triangle-shaped. The second type is represented by a single piece. It is a black steatite cylinder with a pierced boss on top and an engraved scorpion at the base. The face of the cylinder depicts a zebu facing what is probably a lion. This cylindrical seal was found in association with two black steatite beads, and together they may have formed part of a necklace. The cylindrical seal is very similar to the seals found at Taip in the Murghab Delta (9).

The excavators found that in pre-Harappan times Nausharo had links with the Baluchistan uplands, but

these did not last into the Harappan period. The lapis lazuli that we would have expected to come from Chagai, is now scarce. At Nausharo scored goblets and other ceramic elements of the tail end of the Harappan period are absent and the material culture shows, in level IV, fewer links with Sindh than with eastern Iran and Turkmenistan. Burials near the earlier settlement of Mehrgarh (Mehrgarh South Cemetery) fitted this pattern, containing plain gray pottery and metal objects paralleled in north Afghanistan or southern Turkmenia. Material from a small settlement at nearby Sibri was similar, including BMACstyle compartmented seals and flat violin-shaped figurines.
At Rana Ghundai in the Loralai Valley, five occupational levels have been identified, with period I being at the bottom. Period III came to an end with a conflagration, while the following period IV was characterized by an entirely new type of pottery. The end of period III must be attributed to the new arrivals. Period V again brought in a new set of people, as can be inferred from the change in the pottery decoration techniques. The Shahi-tump cemetery was dug into the ruins of an earlier settlement. The burials consisted of bodies placed on one side with the legs flexed. Apart from pottery, the associated grave goods included svastikas, a shaft-hole axe, a copper spearhead, compartmented seals with strap handles, besides beads of agate, ruby, lapis lazuli, and others. The shaft-hole axe is comparable to those from Maikop and Tsarskaya in south Russia, while the seals have their counterparts in Hissar II Band Anau. There are, in addition, stray metal objects of western affiliation. Fort Munro in the foothills west of Dera Ghazi Khan has yeilded a bronze dirk with a fan-shaped decoration on the pommel of its hilt. This dirk is similar to the ones from Luristan and Sialk VI. At Shalozan, high up in the Kurram Valley, a copper trunnion axe was discovered, comparable to examples from Hasanlu and other Iranian sites. At Mohenjodaro there is no direct evidence of a Jhukar phase. Groups of hastily buried or unburied corpses at Mohenjodaro have often been interpreted in terms of a raid by foreigners. Even if it was so, probably ecological factors like water logging discouraged newcomers from settling down at Mohenjo-daro. As for the economy, it was based on crops that included not only wheat and barley but also jowar and rice. The excavators point out that rice needs to be cooked in water (unlike wheat and barley, whose flour can be cooked as flat bread) and that there are round bottomed pots (stained with soot at the base) with handles for easy handling on the fire, at Pirak. As for jowar, it was to become the mainstay of agriculture in the hot Kachi plain with its extremely low rainfall. This crop, sorghum or the great millet, could have come to the Kachi from north-eastern Africa via Yemen and perhaps the Oman peninsula, although its identification in the latter region is now contested. With inputs from the South Asian monsoon heartland, Central Asia, and also the Gulf, the culture of Pirak exhibits a frontier character true to its position on the Bolan Pass route. Baluchistan seems to have experienced considerable disruption in the early to middle second millennium. A number of settlements were destroyed by fire, including Rana Ghundai and Dabarkot, the latter apparently on four occasions.



1 Taxila, Hathial
2 Sarai Kala
3 Panchpir
4 Zarif Karuna
5 Loebanr, Butkara II, Katelai
6 Kherai
7 Aligrama
8 Ghaligai
9 Thana
10 Saidu
11 Timargarha
12 Balambat
13 Chitral
14 Gumla
15 Hathala
16 Harappā
17 Cemetery - H sites
18 Pirak
19 Jhukar
20 Jhangar

Swat and the North-Western Region: In the valleys of Swat and the extreme northwest, where long-established routes lead through the mountains to northern Iran and Central Asia, the period after 2000 BC saw the emergence of distinctive new burial rites associated with settlements which indicate the intrusion of some new people. This period is represented by hill-slope habitations at Loebanr, Birkot Ghundai, lowest Aligrama, and layer IV in Ghaligai cave, and by cemeteries at Loebanr I, Kherai and Katelai I. Since earlier information came from cemetery sites and since in early historical times the area was known as Gandhara (not to be confused with the derivative name Kandhar in the Helmand basin of Afghanistan), this intrusive culture has often been called the Gandhara Grave Culture. A number of settlement sites have since been discovered, so that the cultural horizon now extends beyond the ancient Gandhara. It is sometimes also called Swat culture.The cultural traits of this culture is generally discussed in terms of 1700 and 1400 BC but this culture, in its different forms, continued to be present up to as late as 200 BC.

The funerary rites are distinguished by their diversity and by their regional and chronological variation. They included cremation and complete and fractional inhumation. Complete bodies were placed on their backs with their knees bent, in pits capped with stone slabs

Fig. 2. Sites belonging to the Swat culture and the post-Harappan pha sen (after Dani 1992)

and sometimes lined with drystone walling. People were generally buried singly or in pairs. Children were sometimes

interred in small slab cists. Cremated Gumla was destroyed and abandoned, and later burials were dug into its ruins. Much of the material of this period recovered from the region is in **Fig. 2. Sites belonging to the Swat culture and the post-Harappan phase (after Dani 1992)** the form of stray objects or burials with material
that is linked stylistically with the BMAC and regions to its north.

A few other points may be noted. First, after the Mature Harappan period Sutkagen-dor, Sotkakoh, and Miri Qalat (the first two of these sites were on the third-millennium shore line, the third located inland) saw no second-millennium occupation. Second, the excavators of Miri Qalat have questioned Stein and Piggott's dating of the Shahi Tump cemetery as post-Harappan, and suggest it could be much earlier. Third, Shahi Tump-type spiral headed copper pins and stamp seals occur at Mundigak near Kandahar in periods IV and V, but there is a shaft-hole axe already in Mundigak Period III. Is the latter artifact type a chronological or cultural marker?


Fig.3. Anthropomorphic burial urn, Gandhara Grave Culture (1600-500 BC)
Pastoral-agricultural tribes of Pakistan in the post-Indus period

bottles, some on pedestals, are seen mainly in early period (Fig. 4). One important type is the hour-glass vase, which is so extremely thin and light that it was probably moulded. Two new varieties are the channel-spouted vase and triple bowls-on-stand, both found in Swat. There is also an increase in the number of small jars, miniature vases, saucers and lids of all kinds. One lid found in Swat has a horse-handle on top (Fig.5). Spouted and pinched-mouthed vases, and large water jars with straight-collared rims are seen. However, it should be noted that not all varieties of pots are found in all graves everywhere. What should be noted is the new technique of manufacturing pots: first, the new method of using moulds; second, Th.e increased frequency of Batbottomed vases; third, the increase of red ware; and, lastly, the increase of several varieties of bottles and miniature vases.

Besides pottery, the grave goods included violin-shaped human figurines (Fig.6), and metal objects, especially pins with elaborate heads. Many of these were closely similar to artifacts

&ab%4Q/b%\`cH%d4%NQcWae`Q% from sites in northern Iran, the BMAC, and the
Caucasus, and it is thought that this reflects the !"#$%&%'(%)*+%,-.%/012%)3.%4567%89:%;)7:%<5)=:>)5+%?67:;%)%;7)--%?
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6B%89@;%,),:5%@;%89:%?6*?)=:%8:55)?688)%-@+%E@89%89:%
arrival of numerous small groups of immigrants **F.g. 4. Pottery forms of Period 1 of Gandhara Gave** over the course of the second millennium. This is **Culture** !%<A5@*:%6B%)%965;:%);%@8;%9)*+-:$%B65%89@;%E);%

B6A*+%@*%;@8A%?-6;@*<%)%?@*:5)5>%=);:%@*%89:%
<5)=:>)5+%6B%06:C)*5%@*%HEI8%F@C@+%JK%)*+%,-.%011%

?L%;::%4@<A5:%#3.
burial type was the earliest
Kherai as graves containing

supported by the presence of horses in a few
in the sequence. Thus, what has been
fragmentary bones are actually fractional
described at graves and by depictions of horses on pottery. burials but, Despite these foreign elements, there was also
because of the limited excavation and the nature recognized. On the other hand, at Timargarha

asso ciated pottery and small finds also suggests fundamental However, the commonest ritual practised was cremation, replace extended burial but which increasingly became this type of cremated grave that varieties of pot forms (Fig. 4) are found that were part of the ritual of burning and disposing we find the practice of burning continuing of the burnt bones and ashes. When into the historical period, obviously



fractional burial must be understood
who introduced iron. The cremated
by a people of the site, this was not at fi continuity, with settlements of pit houses (as at

and Zarif Karul)a, fractional
burials are associated only with iron. The same is true in Swat. A study of the
cultural differences.
which did not entirely
more common. It is in

as an intrusive phenomenon
burials are seen to belong



mainly with



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Fig. 5. A concave terracotta lid with a horse figure han

41N\`b% #X% Q% /dc/Q2b% &b``Q/d&&Q% 01W% M1&a% Q% ad`Hb% 41N\`1cb% aQcW0b$%
4d\cW% 1c% H1&\% /0dH1cN% Q% /1cb`Q`V% \`c% F&.% #"f#3$% 4`d_% &ab% N`Q2bVQ`W% d4%

dle, found in situ closing a cinerary urn, from the grave

0dbSQc`% 1c% HMe&$% cdM% 1c% &ab% 1H0Q_QSQW% _\Hb\_.% &ab% W1Q_b&b`% d4% &ab%

yard of Lobar in Swat, now in Islamabad Museum

01W% 1H% g#% /_$% QcW% &ab% ab1Na&% d4% &ab% aQcW0b$% #R% /_.% Gad&d% QHhd% GQ`Gd0Q.

(photo Asko Parpola)

M9@-:%89:%N)*+9I5)%N5)=:%?A-8A5:%6B%89:%N9I-:<)>%21%G:5@6+%@*%7)*>%5:;,:?8;%?6*8@*A:;%
;@7@-)5%86%89:%,5:?:+@*<%N9I-:<)>%2%,:5@6+$%89:5:%)5:%;67:%;@<*@!%?)*8%?9)*<:;$%)C6=:%)--%89:%

bones were placed in pottery cists or urns, some

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with pinched and cut-out decoration in the form

of89:%+67@*)*8%8>,:%6B%,688:5>.%QC6A8%89:%;)7:%8@7:$%?%#RRR%S/$%@56*%)*+%)%-ATA5>%?:5)7@?%E@89%5:7)5P)C->%89@*%E)--;%?)--:+%G)@*8:+%N5:>%M)5:%FGNM3%;8)58%?9)5)?8:5@D@*<%89:%?A-8A5:%6B%89:%

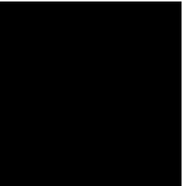
a face (Fig.3), or directly in the grave. The society

GA*U)C% ,-)@*;%)*+% 89:% N)*<:;OV)7A*)% W6)C% F+)8:+% 86% ?% #RRRO'RR% S/3% F:<%Q<5)E)-% #"K!X%

appears to have been organized as a hierarchical

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chiefdom with some individuals being buried withB567%89:%,-)@*;$%;67:%?6**:?8@6*;%C:8E::*%89:%:)5->%GNM%)*+%89:%N)*+9I5)%N5)=:%?A-8A5:%



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large quantities of burials goods, while others had!%<A5@*:;%B6A*+%@*%89:%

only a few pots.<5)=:;%6B%89:%N9I-:<)>%2%G:5@6+%Z9)=:%)-76;8%:T)?8%,)5)--:-;%@*%89:%!%<A5@*:;%5:?6=:5:+%B567%

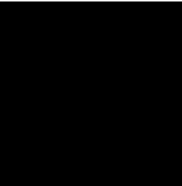


Fig. 6. Violin shaped figurines from Gandhara Grave Culture

5:;:7C-@*<%89:%B)?:%A5*;%6B%89:%N9I-:<)>%2%G:5@6+L%)*+%8:55)?688)%9A7)*%

Burzahom in Kashmir) and numerous small storage pits, but houses were also made of mud and

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The fractional burials, in which skeletal re mains of more than one person are sometimes

!"#$%"&'#'$()$!"#$*&+,"-.&$*.&/#$012!1.#$

found are the richest in so far as grave furniture is

&+,$!"#$3443*.&!3(+$5&/#'$()$.3*/#,30$&.6&+'

concerned. In one grave at Timargarha twenty-six

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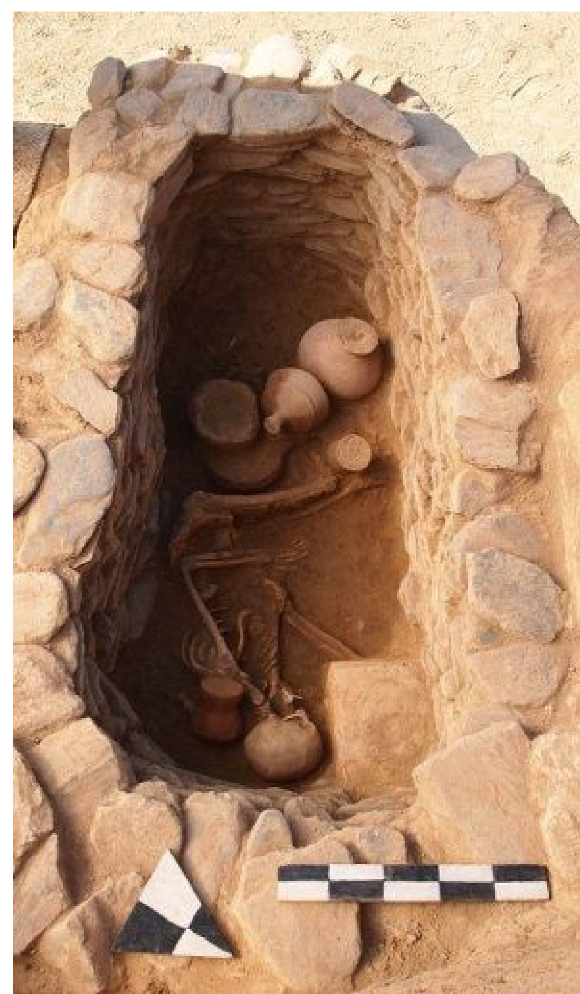
funerary vessels were found. One pot had an iron the cultivation of wheat, barley, lentil, and peas, all:^A)8@6*%E@89%89:%_@++-:%2:+@?%?A-8A5:%,6;8+)8@*<%89:%`@<=:+).%156*%E);%;8@--%A*P*6E*%86%89:%

spoon. The pot varieties also increase in number.

`@<=:+)$%CA8%@;%7:*8@6*:+%B567%89:%Q89)5=)=:+)%6*E)5+;.%&9:%8@7:%<),%C:8E::*%89:%`@<=:+)%known to the Harappans, but also rice and Long bottle-necked jars and several varieties of grapes. Cattle, sheep and pigs were raised. The #(!

tools recovered are of ground stone and polished bone in the main. The latter include a range of expertly-made pins.

Horse burials associated with inhumations at the site of Katelai in Swat may represent high status individuals and special rituals associated with their death (18). On the basis of the horse burials and certain artifact styles, some scholars have associated the Gandhara Grave culture with Vedic culture, but without specific written texts it is impossible to confirm this linguistic affiliation.


Fig.7. A skeleton with some grave goods in a grave at Udegram in Swat

On the whole the settlements have revealed a stone masonry, consisting of rough stone blocks or river pebbles, sometimes held together by small chips, seen in all periods from beginning to end. But no important building has so far been excavated. It is only at Loebanr III that pit dwellings have been identified. The same type of stone masonry is also seen in the construction of stonebuilt graves (Fig.7). From the architectural point of view at least it is legitimate to infer that the whole material refers to one cultural continuum. On the other hand, the pottery tradition shows three distinct trends: the first is the black-on-red painted ware, seen in the lowest levels at the Ghaligai cave and at Loebanr **III** and Birkot-Ghundai; the second is the black-grey ware and brown gritty ware, sometimes with mat impressions at the base of the pots, seen in almost all the settlement sites, and perhaps continuing in the plain blackgrey ware seen in many graves; the third is the plain, sometimes burnished, red ware, which has many forms, and is later characterized by incised decorations. The continuity of red ware throughout is uncontested. It is only the meagre painted sherds that are almost certainly intrusive. Similarly, the large quantity of black-grey pottery appears to belong to new arrivals.

The painted tradition has been viewed by Stacul in the background of the Early Bronze Age cultures of Turkmenistan, Mundigak and the Indus valley, where painting of pots had a long history. At what particular time and from what source the local hill people could have derived a few such pots is difficult to say. But the black-grey ware is a trait that imposes itself on the older red-ware tradition and the two then continued side by side, black-grey ware dominating in some places and red ware in others. There is a technical difference also, some pottery being hand-made and the other wheel-made, but the two techniques are so intermixed that it is difficult to be positive about their chronology. Under these circumstances the only possible inference can be of two main cultural traditions: the first and earlier of hand-made pottery, red or black, sometimes burnished or gritty, with black-on-red

painted intrusions, and the second and later sturdy black-grey and redware pots, which are almost all plain, and invariably associated with graves and a characteristic type of architecture. It is the second category that belongs to the Gandhara Grave Culture. The first must be taken to be an earlier cultural tradition of this backward hilly region, contemporary with a later phase of the Indus Civilization, and may have some remote connection with the material culture of Burzahom in Kashmir. But the main character of that tradition needs to be defined in the context of the local geography by explaining the integral parts of the various elements.

It has, thus, been inferred that this period saw two cultural 'waves' into Swat, represented by the fine painted red ware and the grey-black pottery respectively. And that is not all. There is influence from a third direction, embodied in the occurrence of about three jade ornaments, a few stone knives of rectangular shape called 'harvesters', and double-headed bone pins-all of which are characteristically Chinese elements. (Neolithic Burzahom, too, has a few artifacts with Chinese affinity). Meanwhile, in the graveyards, there is more than one mode of disposal of the dead: inhumations and post-cremation burial. In this context, too, the excavators refer to two tribes or two migrations into Swat. Despite these foreign elements, there was also continuity, with settlements of pit houses whose inhabitants practiced mixed farming, though at some sites rice was now grown as well as wheat and barley, and grapes as well as pulses. Links continued with the Taxila Valley to the south, and with Kashmir where rice cultivation also began and a few copper objects now appeared The rural economy revolved around the cultivation of wheat, barley, lentil, and peas, all known to the Harappans, but also rice and grapes. Cattle, sheep and pigs were raised. The tools recovered are of ground stone and polished bone in the main. The latter include a range of expertly-made pins and spatulae. Metal is scarce, but there are ornaments of gold, shell and faience.

The Gandhara culture spreads from the Pakistan-Afghan border in the West through Bajaur, Dir, Chitral, Swat, Buner, Peshawar valleys, Indus Kohistan and beyond the Indus River at Basham and Taxila on the Hathial ridge. Recent discoveries of cist burials in the Salt Range may indicate that the Gandhara Grave culture extended as far as the northwestern Punjab, but it does not appear to have spread further to the south or east into the Eastern Punjab or the upper Ganga-Yamuna region, which became the core area for the later Vedic traditions. Tucci (12) makes a geographic distinction between Gandhara and Dard country, seeking to identify the latter with *Dardicae* of the Greek historian, embracing, according to him, the hill region north of the Peshawar valley. The hilly part north of the Peshawar valley has been the hinterland of Pushkalavati, and the hilly region in Hazara and beyond has a direct link with Taxila. It is therefore natural to expect the culture to have spread all over this region.

The study of the cultural area is evidently important. So far only three aspects have been noted. The first is the settlement pattern which, leaving aside a single cave at Ghaligai which is marginal to the main context, shows settlements on hilltops or slopes, generally not far from the river bank. The settlements are in the form of either pit dwellings, as at Loebanr **III,** or stone-built rectangular rooms, again characterized by several storage pits. The second aspect is the three types of burial rites, which, as is natural, vary in different places in the sequence. The third feature is the large number of pot forms, varying from handmade pottery to grey and red wheel-made pots, some- times burnished and mat-impressed, and very occasionally painted. The pot forms show many variations, like cooking vessels, *thalis* (eating plates), bowls, drinking vessels, bowls-onstands, pedestalled bowls and cups, bottles, water pitchers, globular jars, handled vessels, jars with pinched mouths as well as ritual pots like visage urns and burial tubs. These pot forms show a pattern of life materially differing from that

of the Indus Civilization and more related to a rural setting than to what follows in the second period of urbanization in the early historical context.

To sum up, certain broad conclusion can be drawn about the Gandhara Grave Culture. The settlements were located on hilltops or slopes generally not far from rivers. The houses were either subterranean or stone-built. A number of similar but not identical burial customs were in vogue. The practice of placing grave goods seems to have been a Bronze Age phenomenon, which came to an end in the beginning of the Iron Age.

A large number of pot forms were in use, varying from hand-made pottery to grey-and-red, wheel-made pots, sometimes burnished and matimpressed and very occasionally, painted. The forms included cooking vessels, dinner plates, bowls, drinking vessels, bowls-on-stand, bowls and cups on pedestals, bottles, water pitchers, globular jars, vessels with handles, and jars with pinched mouths (9). In addition, there were pots for ritualistic use.

The Gomal Grave Culture and the Pothwar Plateau: Diifferent types of graves have been found in the excavations in the Gomal valley (2,19), which may be assigned to a 'Gomal Grave Culture', as it was first recognized from the graves of this region. They have been noted at Hathala, Gumla and Marha Sharif in the Gomal plain and across the Indus River, graves of Period III of Sarai Kala bearing a close resemblance. Gumla and Hathala have produced stratigraphic evidence for placing the graves into two periods. The lower and earlier graves show burnt material. The ritual, as disclosed in the excavations, presents a unique practice. Originally a circular grave pit was dug to a depth of about 1.5 m from the original ground-level. At the bottom, on the virgin soil and over a scatter of what was probably a pile of wood, the animals, supposedly killed or sacrificed, were placed in the middle of the pit. They were again covered by a pile of wood and loose earth, leaving a fire chute at one end. The whole was then filled with clay. On the top of this clay filling and, again over a pile of wood, the body was placed along with a scatter of other objects. It is very difficult to say whether the antiquities were part and parcel of the ritual or not. The whole was sealed by clay. It seems that a fire was lit later, after the grave was sealed, and it was not opened again. As such we may take the grave as a burial as well as a funeral pyre. Inside the grave the funerary material consists of terracotta bangles, female figurines and horses, and tiny saucers, rubbers of stone, hubbed wheels, clay bulls and microlithic flakes. The upper and later burial includes the whole skeleton (Fig. 8). The body was aligned north-south with the head towards the north. The upper part of the body, from shoulder to hip, lay flat down on the ground but the head

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was slightly tilted to the left and the legs were flexed, the left leg being crossed over the right leg. The right hand lay straight by the side of the body while the left hand went across the body towards the right palm. The mouth was wide open. A single terracotta bull was found below the hip. Generally such burials are not accompanied by any funerary material.

A. H. Dani

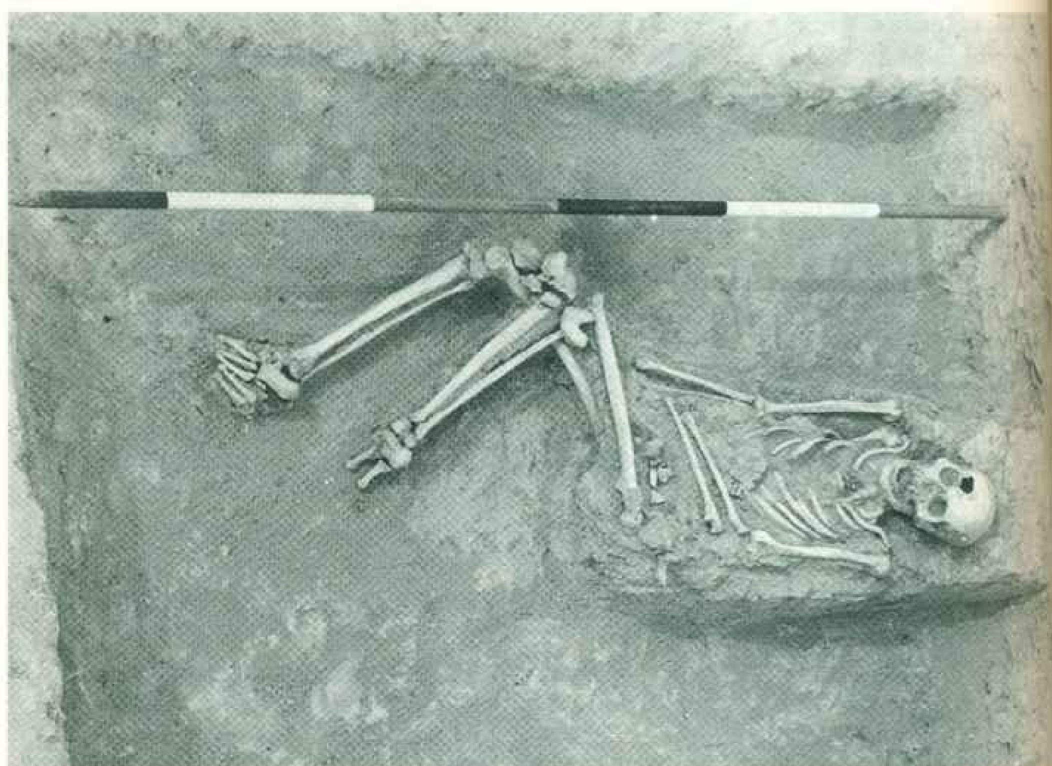


FIG. 2. Iron Age grave from Hathala, Gomal valley. (Courtesy, Peshawar University, Department of Archaeology.)

> with one hand in the pelvic region and other crossed over the navel and holding the first hand on the opposite side. In the other cases one hand was placed in the usual manner in the pelvic region and the other lay on the opposite shoulder covering the breast. Teenage girls were buried in the same position as boys but with the above variation of hand positions. In all cases of girls one hand was invariably placed in the pelvic region. Children were buried with one leg slightly bent so that one foot touched the other leg.[20]

The link of the Sarai Kala grave material with the Gomal Grave Culture is established entirely on the mode of burial practice. The way in which the head is placed so as to leave the mouth gaping or wide open is the common feature of Iron Age graves. They are not accompanied by any domestic furniture. The recognition of this Gomal Grave Culture presents a new cultural complex that had hitherto remained unnoticed.

The last group consists of graves belonging to the Gandhāra Grave Culture, so named because it was first recognized in many localities in Gandhāra.

20. Halim, 1972, pp. 61–3.

Fig. 8. I

2. Iron Age grave from Department of Archaeology.) Hathala, Gomal valley. (Courtesy, Peshawar University, **ron Age grave from Hathala, Gomal Valley)**

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with one hand in the pelvic region and other crossed over the navel and holding the

first handon the opposite side. In the other cases one hand was placed in the usual Whatever little material has so far been

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cavated on the Hathial range around Taxila is also

variation of hand positions. In all cases of girls one hand was invariably placed in

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The link of the Sarai Kala grave material with the Gomal Grave Culture is esta·

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Iron Age graves. They are not accompanied by any domestic furniture. The

Age, almost similar to the cultural material of this Culture nts a new cultural compl ex that

period found at Sarai Kala and later dated at both sites by

The last group consists of graves belonging to the Gandhara Grave CuI

C14 to 2100 B.C. (calibrated). The sec in many localities in Gandhara. ond cultural phase is introduced by the typical material of the Gandhara Grave Culture. The pre

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dominance of bat-bottomed, red burnished pottery

so far observed over other materials suggests that this cultural phase probably belongs to Period III when iron had already come into use. The last phase belongs to the historical period. In this connection the evidence from Balambat is very significant, where two structural periods of stone masonry wall, along with storage or rubbish pits above earlier graves, have also been found. The pits are of the same type as those found at Loebanr III and Aligrama. The stone walls of the first period at Balambat are in one alignment, the longer arms being from North-west to South-east. They make up large rectangular halls probably used for residence. Contemporary with them are two circular stone rooms. As the materials include iron and copper objects, ground-stone celts, ring stones and terra cotta human figurines, this is dated to Period **III** of the graves. The end of this structural period was abrupt. The newcomers ignored the alignment of the older houses. The new structures, which cut through the walls of the earlier period, have their walls running North-South and East-West and thus provide firm evidence of third of the number of mature-phase sites in the area, most of which were abandoned in favor of new settlements. The number of exclusively industrial sites went down, while the number of camp sites increased. In about 1700 BC, these people moved northwards to the upper Ghaggar where they were eventually absorbed into the PGW culture. *A.* H. *Dani*

their later dating. It is in these new structures that we get the most advanced pottery along with improved iron objects, and fireplaces in every room. For the first time diaper stone masonry is seen

in the walls. Hence this second structural phase is dated to the sixth to the fourth century B.C. and the first structural phase to the first half of the first millennium B.C.

Punjab and the Ghaggar-Hakra Region: [1]Cemetery H culture has already been discussed I in the last chapter in sufficient detail. Although this culture is conventionally viewed as a transition

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r from an urban to non-urban culture (the Late Harappans period), its chronology dips deep into the post-Harappan landscape. Furthermore, its geographic reach is not restricted to Harappa and its vicinity. This means that the Cemetery-H culture is no longer an isolated phenomenon in the Indus Valley. Until 1968, it was known mainly from the type site at Harappa but later Cholistan (Bahawalpur) revealed an impressive number of seventy-two sites containing Cemetery-H related materials' (20). The culture thus appears to have extended to the central Indus valley, with one of the important center being Harappa.

Two periods of graves have been noted at Harappa. A lower and earlier, with burials, about 2 m below the present ground-level, has revealed two dozen extended inhumations, normally lying north-east and south-west, with the legs slightly flexed. They were accompanied with food offerings in pots peculiar to the Harappan period. This cemetery was named as *Cemetery 37*. The burials belonged to the Harappan period. There was also an upper cemetery, belonging to the Late Harappan period. These are fractional burials, the skull and a few large bones being deposited in large urns along with pieces of burnt bones. Only infants were placed in the urns complete, in the embryonic position. These urns were covered by lids or fragments of pots. This cemetery has been named *Cemetery H.* The pottery from both types of graves is distinctive.. These two cemeteries are separated by 1.5-2 m thick layer of debris.

The most notable feature of the urns in Cemetery H is the painting of continuous scenes (Fig. 9) on them, no doubt representing some of the ideas associated with death rites. The motifs include peacocks and other birds, bulls and deer. Besidesit, cattle, fish, goats, dog, and less frequently, human beings, also appear. Stars of various shapes, rind-and-dot patterns, groupings of straight and wrinkled lines and short lengths of zig-zag lines are used to fill the empty spaces. The decoration sometimes goes around the vases in continuous scenes. Very little is knowm about the cemetery H culture. The pottery is found at several sites, quite widely distributed throughout the Punjab and the Cholistan.

CemeteryH-typepotteryhasbeenrecorded at about 50 sites in the Hakra basin, in Bahawalpur Division. This number is barely one

Fig. 9. Painted motifs on Cemetery H pottery from Period III of Sarai Kala bearing produced stratigraphic evidence

Harappa
a close resemblance. Gumla and Hathala have for placing the graves into two periods. The

lower and earlier graves show burnt material. The ritual, as disclosed in the exca·
vations, presentsIt is clear from the pottery as well as from to a

depthof about 1.5 m from the original ground-level. At the bottom, on the virginthe decorations on it that the Cemetery H culture

soil and over a scatter of what was probably a pile of wood,the animals, supposedly killedsimultaneously represents a continuum with thewere placed in the middle of the pit. They were againor sacrificed,

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mature Harappan phase and the arrival of new
by a pile of wood and loose earth, leaving a fire chute at one en d. The

whole elements. Sir Mortimer Wheeler (16), one of the over a pile of wood,excavators atthe body was placedHarappa,along wiclearlya scatter of othassociatests. Ithes very difficultCemetery H culture with some intrusive peopler not.

The w hole was sealed by clay. It seems that a fire was lit later, after the gra ve was and these were most likely the destroyers of the
sealed, and it was not opened again. As such w
well as a funeral pyre. the grave the funerary material consists e may take th e grave as a burial as

Harappan19 InsideCivilization. Heine-Geldern (5), whoof terra-
cotta
based his studies mainly on the isolated finds of
bangles, female figurines and horses, and tiny saucers, flesh rubbers of

weapons and other copper-bronze objects, has 19. Dani,1970/71, pp. 51-2.endeavored to demonstrate the 'foreigness' of
these objects in the Indus Valley. He attributes
these objects to a4nnmigration which passed
through the region south-east of the Caspian Sea
where its traces can be recognized at Tepe Hissar
near Damghan and at Turing Tepe near Asterabad. Incidentally, it came from the very area
where historians place the bulk of the Indo-Aryan
people at the time - 15th-24th centuries BC - when
some of its more adventurous groups swarming
out towards the South and Southwest had acquired mastery over the kingdom of Mitani and
parts of Syria. Among the evidence he sites a
number of finds from different sites: a trunnion
axe from the Kurram Valley near Shalozan, a
bronze dagger from Fort Monroe (Baluchistan), copper swords with antennae hilts from Gangetic plains, a pin with two deer-top, an axe-adze from Mohenjo-daro, a bronze maced-head and the Jhukar seals from Chanhu-daro. He dates all this evidence on the basis of parallels around 1200 BC. Fairservis (21) also reaches the same conclusion on the basis of his research in the Quetta Valley. M.S.Vats,oneoftheexcavatorsat Harappa, attributed the new elements to the Arystcans. Whether they can really be attributed to any bu
wiparticular linguistic group or not, they do show a type of cultural milieu, the meaning of which was not clear at the time of excavation, but when seen today in a wider perspective of numerous graves

thof the period, builds up a picture consistent withbe

other explanations.
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Ochre Colored Pottery and Copper Hoards Cultures: Early archaeological investigations in Rajasthan and the Ganges-Yamuna doab

noften uncovered small sherds of a friable badly fidamaged ware that was described as Ochrev.

C Colored Pottery (OCP), from which anotherwise unknown culture took its name. A number of caches of distinctive copper artifacts, including antenna-hilted swords, anthropomorphic axes, swords with a hooked tang and a midrib, and

tbarbed and tanged harpoons, were also found in
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\ the doab, and they were attributed to a Copper Hoard culture. It was only in the later twentieth century, however, that excavations demonstrated that eastern OCP and copper hoards were made by the same people in the doab, who could now be chronologically pinned down to the early to mid second millennium. The copper hoards' artifacts are often of high-arsenic copper, the arsenic either being a deliberate alloy or, more probably, present as an impurity in the copper ore.

OCP is a red ware with red slip and often painted decoration. Its antecedents lay in the red wares of the Jodhpura-Ganeshwar culture, showing that its makers included the indigenous cultures of the region, which had a long tradition of manufacturing copper artifacts. OCP sites can be divided into two groups. The western OCP was known at sites such as Jodhpura, Siswal, Mitathal, and Bara, occupied by late JodhpuraGaneshwar or Late Harappangroups, and their pottery showed a mixture of traits derived from both Jodhpura-Ganeshwar red ware and Late Harappan pottery as well as Cemetery H pottery and the Sothi-Siswal ceramic tradition that had endured from the Early Harappan period. Many of these settlements had evidence of extensive copper smelting.

To the east of Rajasthan, a somewhat different style of OCP was found from around 2000 BC onward in western Uttar Pradesh at sites such as Lal Qila, Atranjikhera, and Saipai, along with objects made of copper. These were settle- ments of rectangular postbuilt wattle-and-daub houses. Their inhabitants practiced arable agriculture, growing rice, wheat, and barley and raising cattle, sheep, goats, pigs, and buffaloes.

While some settlements had only OCP pottery, others such as Ambikheri and Bargaon had a mixture of OCP and Late Harappan material. Some scholars do not recognize a significant distinction between the OCP and Late Harappan wares, instead seeing OCP as one of several varieties of Late Harappan pottery. The impression these settlements give is of a patchwork of farming communities whose diverse ancestry was often reflected in their choice of styles of artifact but who were otherwise similar and well integrated.

The Ochre Colored Pottery culture (OCP) is a 2nd millennium BC culture, most conspicuous in the Ganga-Jamua Doab but absent from the Indus Valley. It is generally considered a local postHarappan culture and was Painted Grey Ware culture, Early specimens of the characteristic ceramics come

from Jodhpur, in Rajasthan but its reach extends to middle Ganga plains. OCP has only marginal relevance to the post-Harappan scenario in Pakistan as no sites containing this type of pottery has been found here.

The term *copper hoards* refers to different assemblages of copper-based artifacts in the northern areas of the Indian subcontinent. Like OCP, the Copper Hoards are believed to date from the 2nd millennium BC. but few derive from controlled excavations and several different re

gional groups are identifiable. Because of this 4"5%#$"2.*(#5(>$&(>?(%B&(=B#&?(5#%&5(>?(%B&(!"#$%&'()*&+(,"*&(=./%.*&(C!),D("$(E*>$(F@&(presumed archaeology, both Ochre Colored Pot=./%.*&(#$(%B&()"$@&%#=(2/"#$G(/"5%#$@(?*>H(*>.@B/+(6I88(;-(%>(:88(;-J(E%(#5(tery and Copper Hoards are thought to belong to The authorship of the Copper Hoards and =>$%&H2>*"*+(%>G("$'("(5.==&55>*(>?(%B&(;/"=K("$'(<&'(A"*&(=./%.*&J(E%(#5(5.==&&'&'(L+(the same cultural group. In this connection theM>*%B&*$(;/"=K(!>/#5B&'(,"*&(?*>H(="J(N88(;-J(the OCP is still being debated. Four different theofollowing points deseve attention: of the sites 0O="P"%#>$5("%(4"5%#$"2.*(A&*&(="**#&'(>.%(#$(&"*/+(67N85(L+(;J;J(Q"/(>?(%B&(ries proposed from time to time are as follows:yielding the Copper Hoards, Rajpur Parasu, BiF*=B"&>/>@#="/(R.*P&+(>?(E$'#"J(F/%B>.@B(%B&(>LS&=%(>?(%B#5(&O="P"%#>$G(#$(Q"/T5(>A$(Heine-Geldern (5) associated the Copper Hoards sauli, Bahadarabad, Nasirpur, Baharia and SaipaiA>*'5(UA"5(%>(?#$'(>.%(%B&(5%*"%#@*"2B#=(2>5#%#>$(>?(%B&(with the Aryan immigration in India. Piggott also(A#%B(

have also yielded Ochre Colored Pottery. From *&?&*&$=&(%>(>%B&*(K$>A$(=&*"H#=(#$'.5%*#&5(>?(%B&(&"*/+(B#5%>*#="/(2&*#>'UG(Q"/(=>./'($>%(

Saipai
copper
implements
and
Ochre
Colored
initially supported him though subsequently he
&5#5%("%%&H2%#$@("(=>**&/"%#>$(L&%A&&$(%B&(1"B"LB"*"%"("$'(%B&(H"%&#"/(*&H"#$5(%B"%(
Pottery were also obtained in the course of regu
changed his position in favor of the Harappan
B&(.$=>P&*&'("%(4"5%#$"2.*J(VB#5(&O&*=#5&(/&'(B#H(%>(B#5%>*#=#W&(5>H&(>?(%B&(%*"#%#>$5(
lar excavations simultaneously. These sites are
refugees and displaced persons. Sharma (22),
Rao (23) and Misra (6)
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yielding the OCP sherds exclusively. These two
points put together make a strong case for group
ing the OCP and Copper Hoards together.

Chronologically, there is an overlap be
tween the Late Harappan and OCP sites. Ar

chaeologically, however, there is no overlap. OCP sites do not offer any Harappan artifacts and no Harappan site has been known to contain OCP. This would certainly indicate that these two cul tures did not meet and one is not a derivative of the other. It would also stand to logic that OCP was probably the earliest ceramic tradition of the central Ganga-Tamuna Doab. This leads us, how ever, to some problems. Ochre Colored Pottery is well fired and it is represented through various forms. If we associate the OCP with the aborigi nes of the Ganga Valley who were settled in the area before the coming of the Aryans or any other post-Harappan argo-pastoral peoples from the

Hoards and the OCP with the Late Harappans.

B.B. Lal and Gupta ascribe the Copper Hoards and the OCP to the aborigines who inhabited the Ganga valley before the coming of the Aryanspeaking people in that area. According to Lal, the typical implements of the Copper Hoard assemblage - the anthropomorphs, antennae swords and harpoons are not found outside the upper Ganga valley. He feels the bar celt and harpoons might have evolved from their stone prototypes. Lal points out that it is not unlikely that the ancestors of these people might have been Sabaras and Nisadas of the Vedic literature. The incoming Aryans encountered these in the upper Ganga valley.These aborigines having been driven out by the Aryan speaking people from the upper Ganga valley took refuge in the jungle-clad hilly tracts of the Vindhyas.
succeeded by the

described below. West, we would be confronted with the position that the aborigines had been using wheel-thrown pottery. As we know, however, that in the central Ganga-Yamuna Doab or in the Upper Ganga Vlley there is no evidence so far for the introduction of this evolutionary technology, that is, the wheel thrown pottery. If the OCP is assigned to the aborigines at all we would have to admit that

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they had learnt the technique of wheel-made pottery from some external source. It is plausible that the migrating Indus people from the West was such a source. 4"5%#$"2.*

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Fig. 10. Reconstruction of typical gray-ware pottery

Painted Grey Ware Culture: Since the 1950's, the PGW have been gaining increasing significance in South Asian later protohistory. These have been recognized as a distinct grey colored ceramic group made of fine and wellIevigated clay and well fired (Fig.10). This group is either plain with smooth surface on both sides but often showing application of thick dark slip, or painted with black linear designs. Their forms are limited mostly to small and medium sized cups, bowls and dishes with incurved, vertically straight or flared-out rim and often with carination at or above the base. Red pottery duplicating the painted and unpainted PGW forms also occurs in limited number. The other ceramics associated with the PGW and representing over 95 per cent of the total assemblage consist of plain, stamped and incised red wares of different fabrics, forms and even firing process. Examples of pottery fired to red color externally and black core or/and inner surface which is often labelled as 'Black-and-red Ware' are also reported with the PGW or their associated assemblages.

To date, the PGW has been identified at more than three hundred sites located in western Uttar Pradesh, Punjab, Haryana and northern Rajasthan (24). At some sites, such as Bhagwanpura (25) there is an overlap between the Late Harappan communities, which continue until around 1000 BC in the Ganga-Jamuna region. This claim is, however, questionable. In Pakistan, a number of sites have also been trenched in Cholistan to varying scale during the past thirty years. They are also found distributed as far west as Taxila in the Pothwar region. Many of these sites also have pottery with red slip and black painted designs that can be thought of an heritage of the Late Harappan period. Generally speaking there is no clear planning of these settlements, but some houses are oriented northsouth.

The communities who used Painted Grey Ware were farmers and herders living in small villages across the land between the Chenab and the Jamuna River in the area known as undivided Punjab where Harappa was located. The Painted Grey Ware culture and an earlier Ochre Colored Pottery culture which may represent Late Harappan communities in the northern Indus plains provide the most convincing archaeological evidence for the transition from the Late Harappan to the early

historic period. The size and distribution of these settlements in a two or three tiered settlement hierarchy and shared material culture indicates the presence of small chiefdoms that are linked together with shared culture and beliefs. The shared beliefs are indicated in the use of similar types of ornaments made of terracotta, stone, faience and occasionally glass. Terracotta human and animal figurines are also found at Painted Grey Ware sites. The animal figurines include cattle, horse, and wheeled rams that may have also been used as toys. Incised terracotta discs with decorated edges and geometric motifs also may have had ritual meaning. Some archaeologists have proposed that they may be symbols of specific deities. In addition there is evidence for the use of square, rectangular, wedge-shaped bricks, but since these are not associated with any domestic architecture, it is possible that they were used in ritual structures that were later disassembled or allowed to fall apart.

In terms of chronology, the earliest Painted Grey Ware sites, which show an overlap with the Late Harappan and also do not have iron tools, are found in Cholistan. Later sites with iron tools are concentrated in the Indo-Gangetic Divide and the Ganga-Jamuna Doab. Many of the Painted Grey Ware sites in this region region continued to be occupied during the subsequent North Black Polished Ware period, described below. The fact that sites further to the East date to a later period and show a gradual evolution from late Painted Grey Ware culture to Northern Black Polished ware culture is taken as evidence for the gradual migration of the Aryan and Aryanized Indus communities to the East.

As Mughal has shown (7), in Cholistan the Harappan sites were concentrated south of Bahawalpur city from near about Yazman up to west of Derawar. Almost all of these settlements were abandoned in the Late Harappan period. This area was, however, repopulated during the first millennium. All the known sites were PGW settlements and were established at new locations. The choice of the upper but already abandoned course of the Hakra for new settlements during the early first millennium BC. seems to have been motivated, among other factors, by the meagre but precious amount of flood water still available there from the Hakra with seasonal regularity than those of the Late Harappan due most probably to the limitations imposed by the changed environment around the first millennium B.C.

In Cholistan, the ceramic material collected from the surface and disturbed sections of the PGW sites afford good parallels with contemporary sites in northern Rajasthan. Both plain and painted grey pottery occur with the red wares decorated with impressed designs along with a limited number of what is called 'Black-and-red' pottery across the border and is found in such contexts which await proper definition. B. B. Lal and B. K. Thapar who have examined the entire unpublished collection from the PGW sites during their visit to Karachi in 1980 also noted the presence of red ware pieces of bowls or dishes with incurved or vertical sides and carinations which they thought were proto-types of the Grey Ware forms of an 'early group.

In all, fourteen sites representing, as far as the surface features indicate, settlements of the PGW period have been noted along 160 km long stretch of the old Hakra River bed**.** All seem to represent single-period sites because no evidence of preceding or succeeding occupation was found on any site. The sites are situated right in the dry river bed and along the lost course of the Hakra. That strip of river alluvium, 2 to 5 and even more km wide, is the most fertile belt of land now irrigated by the Hakra and Desert Branch canals. Most sites have been leveled down but those still intact, survive to the heights varying from 1.8 to 4 m from the surrounding plain level. An apparent blank area about 45 km long seen between Gharanwali (site No. 41) and Chak 103 (site No. 92), is at present very

intensively cultivated. The PGW sites must have existed there originally, all of which are wiped out now. Among fourteen sites, thirteen are less than four hectares in size and only one, Satwali (No.40), located almost in the middle of lateral chain of sites between Yazman and India's border, spreads over an area of 13.7 ha. Three sites are less than one hectare in size while six are between one and two hectare, and only four range from 2 to 4 hectare in area (7). In the absence of any excavation, general consensus among the South Asian scholars who have seen the assemblages from the PGW sites in Bahawalpur is that some of its materials could be equated with those assignable to the first quarter of the first millennium B.C. in the contiguous area of India.

The research on the PGW and interpretations of the associated materials have largely remained focussed on their assumed connection with the early movements of the Indo-Aryan people into India and their material culture. The radiocarbon dates so far available from the PGWbearing deposit from widely-separated site place them into *ca.* 1100/1000 - 400 BC. However, the sites located in Rajasthan, apparently seem to fall in the first quarter of the first millennium BC (26). In Uttar Pradesh (India), Atranjikhera has yielded the earliest known date of 1155 BC for the lowest PGW levels. While debate on precise chronological range of the PGW and its cultural implication still continues, the claim by J.P. Joshi (27) of possible links between certain Late Harappan traits and those of the PGW at Bhagwanpura and Dadheri and suggested continuity from Siswal (contemporaneous with Late Harappan) to the PGW period are prompting new interpretations (28,29,30) which sharply question the views based on linguistic and literary evidence concerning assumed population migration from Pakistan ito India during the first millennium B.C. and their association with the PGW.

Northern Black Polished Ware Culture: The major cultural tradition that follows the Painted Grey Ware Culture is generally referred to as the Northern Black Polished Ware Culture (31) but there are in fact several regional variations of this cultural tradition that use different styles of pottery. The classic NBP are from Hastinpura in the Ganga-Yamuna Plain (752, 709, 530 BC). In Pakistan, recent excavations in the Bannu district at sites of Akra (900-790 BC) and Ter Kala Dheri (1000-400 BC) have provided radiocarbon dates that would push the chronology for the NBP at Taxila and Charsadda to as early as 900 BC. Although no complete settlement studies have been carried out, there is some indication of a two or three tiered settlement system in northwest Pakistan. Other sites in the central Punjab, such as Shorecot, Bawani and Harappa, and Pirak have pottery that is comparable to the pottery found in early layers of Taxila/Hathial and Charade, comparatively dated to ca. 600 BC.

The overall population estimates for surveyed sites indicate significant population growth in the Ganga-Jamunea doab beginning in the Painted Grey Ware period and continuing on through the Northern Black Polished Ware period. This population growth could be attributed to migration of agricultural and pastoral communities from the upper Indus Valley to the rich agricultural regions of the Gangetic plain, as well as the agglomeration of tribal populations to agricultural villages and towns. Even without the aid of literary texts, the archaeological record from sites at the end of the Painted Grey Ware period and early Northern Black Polished Ware period indicates increased social hierarchy and stratification, both within the sites and between sites. The settlements with NBP and other related pottery styles are more numerous and more widespread than the earlier Painted Grey Ware.

Thepost-HarappanSceneinthe Neighbrhood: Despite a precipitateous decline in the post-Harappan urban economy and a noticeable decrease in long-distance trade, the Indus people were not isolated from its neighborhood. A number of ‘foreign’ peoples seems to be making inroad into the Greater

Indus Valley from the Southwest as well as from the Northwest. These developments on the western borders of Pakistan are of tremendous relevance to the Greater Indus Valley. There is now plenty of archaeological evidence of new Central Asian elements appearing in the emerging post-Harappan Indus cultures. This influence is not limited to the Indus zone but goes beyond even up to the Divide. At the same time, some communities were migrating eastward into the Indo-Gangetic Divide and Saurashtra. The migration of the so-called "Aryans" is one celebrated event that belongs to this period. A similar cultural impact was being felt in Baluchistan and western Sindh. In the followings we shall touch upon a few points, relegating the Aryan question to a separate chapter.

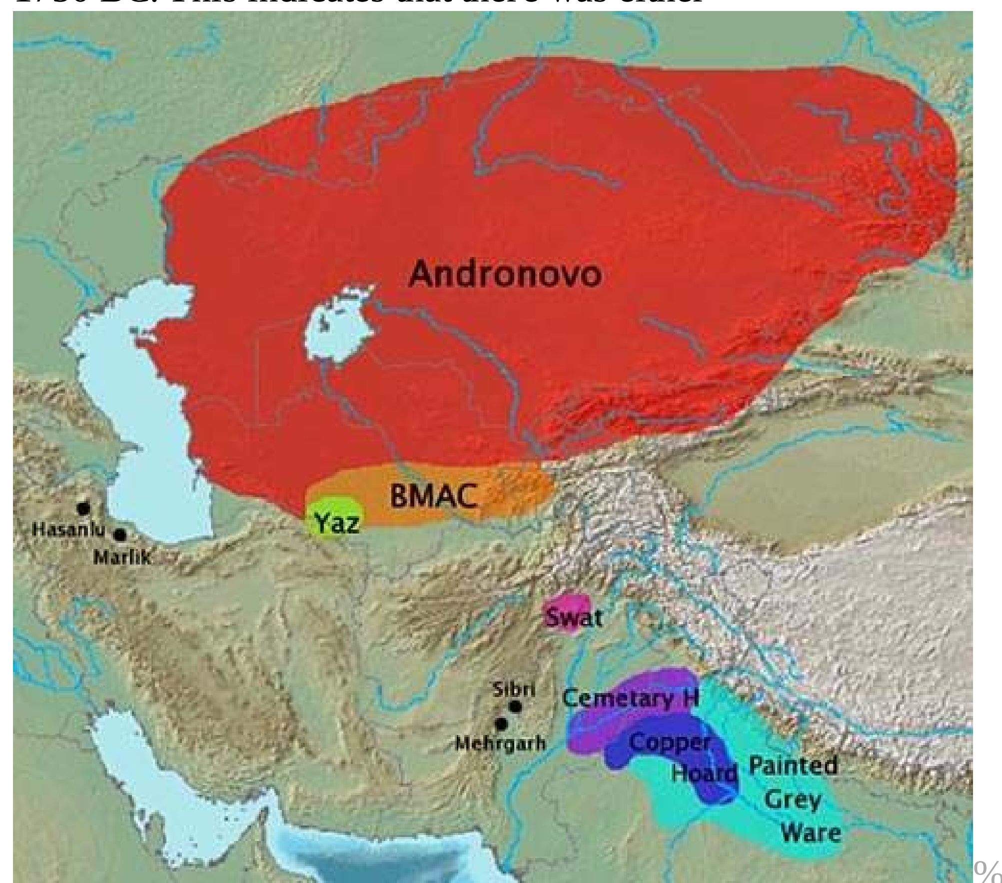
Bactro-Margiana Tradition: It is well-known that around 2200 BC a new culture, the BactriaMargiana Archaeological Complex, or BMAC, was developing in northern Afghanistan. Some new settlements appeared first in the Murghab delta in Margiana and gradually extended into other oa

Mohenjo-daro. Twelve such mirrors occurred in graves at Harappa and one in a Kalibangan grave (33

ses of the region. They were established along small rivers, where their inhabitants reared do mestic animals and used floodwater and canal irrigation to raise crops. Associated material shows a high level of craftsmanship, with fine quality, undecorated wheel-thrown pottery and with abundant metalwork, including many weap

) . Rissman has remarked that in Harappanto encompass much of Baluchistan and the area previously dominated by the Helmand Tradition, graves it was mirrors rather than any other bronze and even extends out onto the Kachi Plain near Mehrgarh. Many of the distinctive BMAC objects item that tended to be deposited, and that only have been found at sites in the Indus Valley, pri one such mirror occurs in a Harappan hoarded marily during the time period between 1900 and

1750 BC. This indicates that there was either



%

treasure. The beautifully cast, socketed adze-axe considerable trade be
tween the two regions or of Gonur 1 has counterparts at Hissar, Shahdad, there was a movement of
people to and from the Khinaman and also Mohenjo- daro. highlands. The purpose here is not to elaborate on a Western
contacts along t h e B o l a n list of similarities between the regions, for such an

Mehrgarh, Sibri,

Naushahro, Jhukar areexercise often tends to neglect context and co
particularly occurrence, and simplistic conclusions are drawn the Southwest. As dis

cussed above, the site of
Mehrgarh
Cemetery

about 'trade' or 'migrations'. The point is, instead, has a Southto highlight the relevance of the happenings inwith ordinary

graves, void of

'cenotaphs' this region to the Harappan centers, and suggest human remains
but with that there may be some interconnection between Fig. 11. Archeological map of the Post-Indus-Valley and !9"$"% M:@:E.(:, Harappan Civilization - The Material Culture the series BMAC cultures. Archeological map of the Post-Indus-Valley Cul

phenomena; moreover, such overlaps could indiPost-urban there, seems to

desertions of Harappan settlement

record significant L189."-"=:8,-%A,E%"C%$9.%!"#$*&'()#*+,--./%0)-
$)1.#H%6KL0H%,'(%$9.%NO@/$9:,'P%
ons and stone and bronze filigree seals. A fortified
cate that the Harappan material culture was intru

tures, BMAC, and the “Skythian” Andronovo

settlement dominated each region: These wereL'(1"""I" At Jhukar there is a clear cultural overlap andeither rectangular or square, around a hectare incommingling of cultures; and in the artifacts newarea, and enclosed in a massive mud brick wallSindh. tastes, but perhaps the old artisans, seem evident.

with towers. This culture spread into adjacent re

At Jhukar now the goblet is painted with Jhukar mo

In Baluchistan the evidence is extremely

gions to the West and south, occupying the areas The beautifully cast, socketed adze-axe of

formerly of the Helmand culture and the urbanlogicalfragmentary. At Nausharo, the final phase of peandof technologyGonur I has counterparts at Hissar, Shahdad, record of new people, the Jhukar

riod II contains distinctive pottery similar to that of cultures of Turkmenia. At the Indus trading out**Sibri and the South Cemet**Cemetery-H cultures with their larger distribution

Kirman

post of Shortugai, Bactrian material was present

and

to

also

appear to be claimants to that title.
the cemeteries of southern Central Asia. A ceme

Harappa and

change. The drop from 86 to 6 sites is important,

and colonizations, and events in the western re

but so too, is the abandonment, or virtual aban

gion.donment of Mohenjodaro, the premier urban centre.

The excavators of Chanhu-daro and Amri believed the Jhukar to be an intrusive and post

The Kacchi plain, on the frontier between

Harappan element, The evidence at Chanhu-daro

of other artifacts like bone awls, fire-places, headthe Indus valley and Baluchistan, was also afSibri and the South Cemet

rests and seals, and a totally different style of habi

tation have perhaps not been sufficiently apprecifected by group movements of people. Western

ated by Dales, Mughal, and Possehl. As Ratngar

Mohenjodaro. points out (2), the fact that Mackay found it difficultcontacts re-appear at Nausharo after the Harap from the Harappan the postduring the last period of Indus occupation, when to isolate Jhukar material from Harappan was beChanhudaro each have a single bladed socketedpan period.The famous neolithic site of Mehrgarh

period the settlement became part of the BMAC.



cause standing Harappan structures were occupied,

and from disturbed occupation deposits conaxe (Socketed axes were not part of the typicalFig. 12a. Bronze flagons from Turmeniadisturbed, and modified - not because one culture By 1700 BC the distinctive BMAC material was no grew, little by little, out of the other.near Dadhar has a South Cemetery with ordinary Harappan repertoire). Exquisite bronze animal graves, 'cenotaphs' devoid of human remains but

(Oxus) region but was known in areas farther grave idea of Jhukar being little more than a new ceramic

However, there is enough continuity that theheaded pins or 'wands' at Dashly and Hissar havepits. found a counterpart in the latest stratum of Harappa ingravepreserved along with theBMAC is seen as a complex of chiefdoms tional goods interred inwith offerings, and grave goods interred in pits. At

northwestern regions of the Greater Indus Valley. At this cemetery 'Jhukar' means not only a certain kind of pottery but

goodsthis cemetery grave goods of international cur

currency include(ii) fireplaces outside huts or indoors in wall re

an 'antimony stopper rod' surmounted by the fig

steatite
cesses formerly occupied by doorways; (iii) a profu

rency include steatite kidney-shaped containers

the Kopet Dagh from around 2800 - 2100 BC sion of bone awls used for making mats; (iv) round

containers (as in Bactria), ure of a dog biting the ear of a goat; and at Mo amud brick fortification wall with defensive gate stone scepter (as in(as in Bactria) , a stone sceptre as in sites of the

metric motifs (except for a few showing animals or a There are

henjodaro where a rod is surmounted by an ante

ways. Status differentiation is seen in burials and

sites of the BMAC and beautifully executed knot design); (v) short barreleastern
lope. There are also compartmented seals whose

eastern

BMAC and

shapedIran), a bronzebeads of faience; andcosmetic or biconical towns with multiple concentric walls and complex
multi-roomed structures were constructed using
Baluchistan
mud brick. Although each fortified site may have
and Helmand Region:
been a separate political unit, similar to historical
with
Indus
ideologies and cubical stonewarlords or khanates, almost identical styles of

ornaments, seals and tools were being used by
elites in each of the settlements. From 2100-1900
BC interaction with the Indus Tradition is docu
mented, but it does not represent a major cultural

bronze tools and pins with spiral or other sorts offlagon, mirror, and pins with double volutes or

and pins with double voornamental heads. Further study will probably relutes or bird-shapedveal more such items and that 'Jhukar' was indeed heads (4). In the Kacchi,what we can call an archaeological culture, not a the short-lived settlementdiluted form of the Harappan.

of Sibri could have beenAnother area of our immediate interest in the settlement of a smallcontext of the post-Harappan landscape in Sindh is group
the Kachi plain. The Kachi is an extremely arid and of migrants whoinhospitable area immediately west of the lower **Fig. 12b. A Central** came down the BolanIndus alluvial plain and lies at the terminus of a **Asian type copper flagon** Pass from northeasternworld route across southern Afghanistan and northimpact between the two regions but seems to in**A Central Asian type Copper/bronze cosmetic bottle and** Iran or Central Asia:ern Baluchistan. On this tract, that was watered by crease 1900 BC onward. This interaction appears **A Central Asian type Copper/bronze cosmetic bottle from Mehrgarh Ceme**

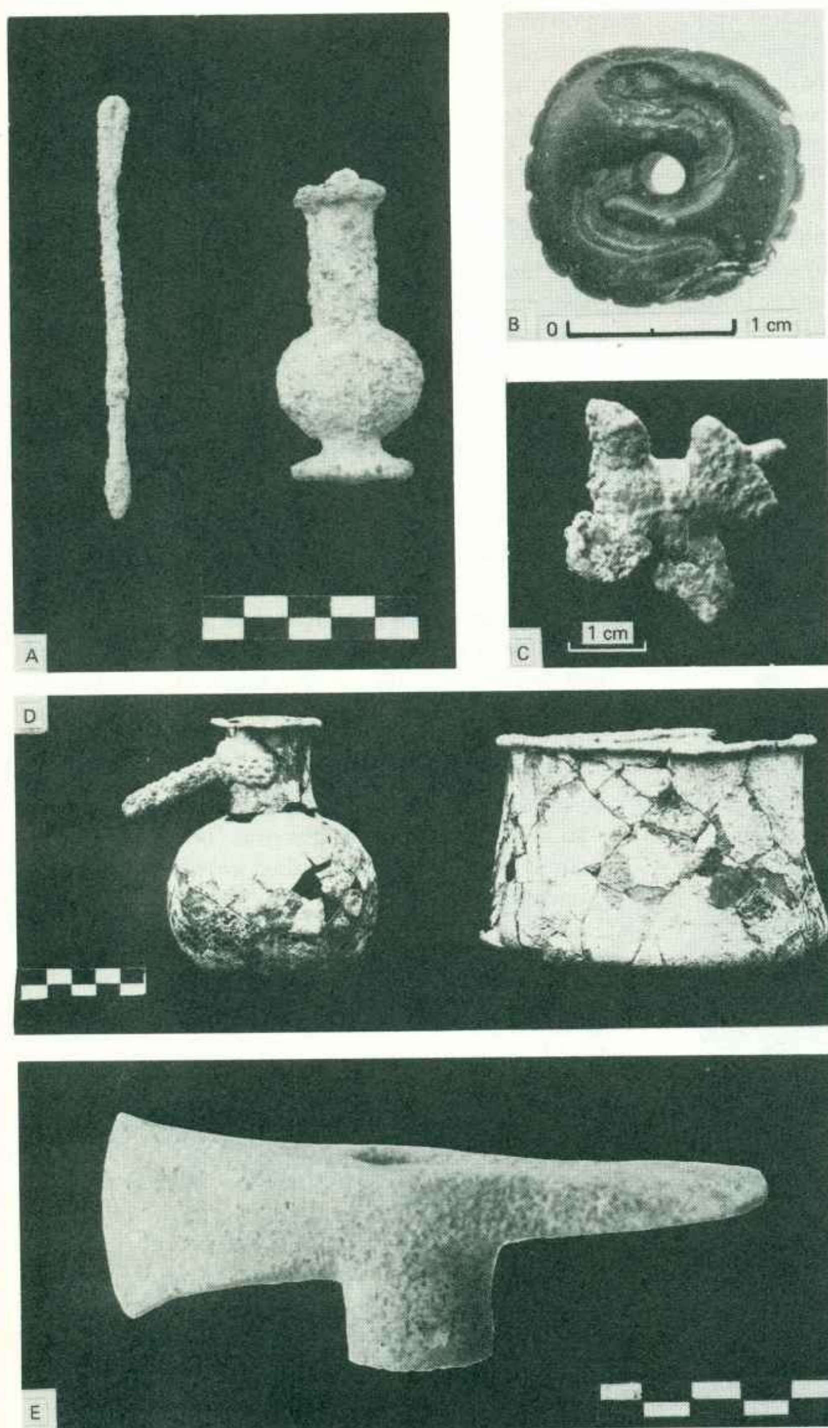


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

and its pin from Mehrgarh Cemetery (late period)

tery (late period) among the finds occur athe Bolan and other mountain streams, the mound tery south of Mehrgarh and another at Sibri con

Notwithstandingthecontinuityshownby

tain equally distinctive pottery and bronze objects

Mughal and Dales, 128 the Jhukar culture contains a

number of intrusive objects, such as round button

show remarkable affinities to the cemeteries of

of Nausharo has pre-Harappan as well as Harappan levels (I to III). Level IV, in parts eroded or disturbed by graves of recent times, has pottery in the Harappan tradition as well as Kulli-like round jars and painted goat friezes around pots. There are

seals, which find their closest analogues to the finds

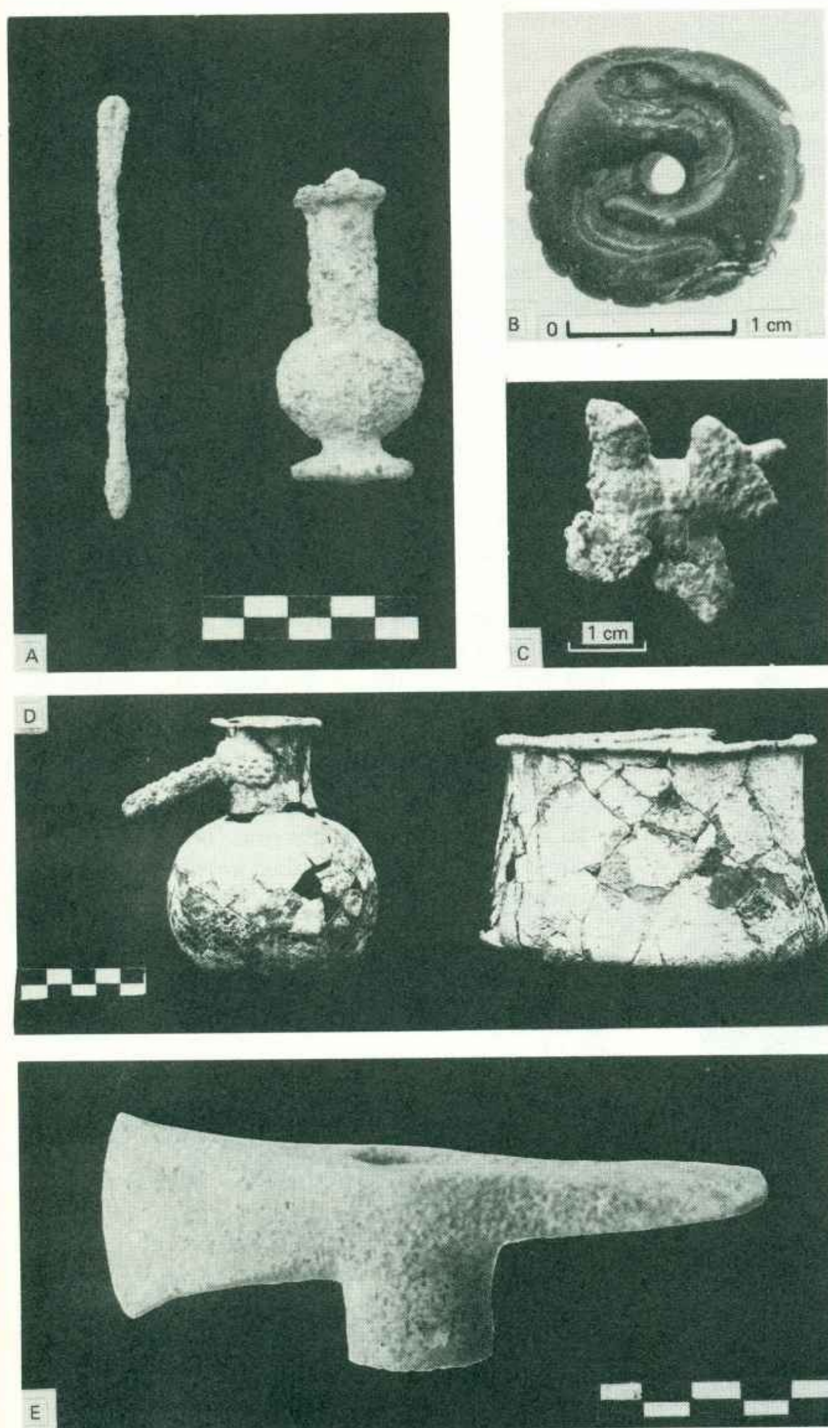


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

North Afghanistan and Central Asia. The Late
from the Bactria-Margiana Archaeological Complex. also Kulli-style clay figurines. In addition, there are
rests and seals, and a totally different style of habiChanhu-daro, Miller describes the settlement as
tation have perhaps not been sufficiently appreci"haphazard and less focused" during this transiAncient Pakistan - An Archaeological History ated by Dales, Mughal, and Possehl. As Ratngar tional phase that marks the end of occupation of points out (2), the fact that Mackay found it difficultmany sites in the Lower Indus. The square stamp and a manifest continuity in others.
to isolate Jhukar material from Harappan was beseals are replaced with circular ones bearing new cause standing Harappan structures were occupied,column, two flat, violin-shaped
figurines, compartmented seals, a bronze orna motifs and the terracotta female figurines associ
disturbed, and modified - not because one culture



Baluchistan had always been within the sphere ofstone
mental pin, and a bronze shaft-hole axe-adze.
grew, little by little, out of the other.weights, both signature artifacts of the civilization,
There is alo evidence of copper/bronze industry at
Another reservation one can voice about theare rare. The Indus script also disappears, save for
the site, which is comparatively rich in metal.
idea of Jhukar being little more than a new ceramic examples incised on pottery (29). Jhukar and the cultural
Critically important is the fact that Sibri offers not
style is that in Mackay's report on Chanhu-daroassociated sites were merely a shadow of the Late
'Jhukar' means not only a certain kind of pottery but
only Central Asian elements but also Harappan
Baluchistan or along its eastern borders. The Ma

regions. also (i) huts constructed of brickbats and matting;ceramic traits and Indus characters on an amulet, (ii) fireplaces outside huts or indoors in wall reso that the chronological coincidence between the cesses formerly occupied by doorways; (iii) a profulater phase of the Harappan civilization and the

(also re sion of bone awls used for making mats; (iv) roundmomentous happenings to its West are estab to as the lished.
or occasionally rectangular seals with basic geo
civilization) metric motifs (except for a few showing animals or aAt Pirak, 11 km south of Sibi on a tributaryfrom from of the Bolan, a 9-ha settlement was foundedbeautifully executed knot design); (v) short barrelfrom a hoard at Harappa, dated around 1700

BC, shaped BC and is biconical beadsaround 1700 BC. The material culture - houseand (vi) the or was made of brown glass, the earliest known ex
Bactro bronze tools and pins with spiral or other sorts offorms, hearths, pottery, bone and stone tools and
ample of glass in South Asia. A new form of kiln
ornamental heads. Further study will probably regrain storage methods - presents a contrast to the appeared at Harappa, an indication that some
Complex - veal more such items and that 'Jhukar' was indeedHarappan material culture. Moreover, at Pirak the

A Copper/bronze shaft-hole axe-adze from Sibri, near

what we can call an archaeological culture, not a **Mehrgarhnear Mehrgarh, Baluchistan. Note the similarity with**rather B. Stone button-seal from Cenotaph Bactria-Margiana/bronze

A Central Asian type Copper/bronze cosmetic bottle and

A Central Asian type Copper/bronze cosmetic bottle its pin from Mehrgarh Cemetery (late period)

and its pin from Mehrgarh Cemetery (late period) Harappan Civilization - The Material Culturethe Bolan and other mountain streams, the mound of Nausharo has pre-Harappan as well as Harapphenomena; moreover, such overlaps could indiPost-urban

Notwithstandingthecontinuityshownby pan levels (I to III). Level IV, in parts eroded or dis
cate that the Harappan material culture was intrutain equally distinctive pottery and bronze objects change. The drop from 86 to 6 sites is important,

Mughal and Dales, the Jhukar culture contains a turbed by graves of recent times, has pottery in the sive in these places.including a shaft-hole axe-adze. These sites also but so too, is the abandonment, or virtual aban number of intrusive objects, such as round button show remarkable affinities to the cemeteries of

donment of Mohenjodaro, the premier urban centre.
and painted goat friezes around pots. There are commingling of cultures; and in the artifacts newseals, which find their closest analogues to the finds the Late Harappan (Jhukar) Period of the lower
tastes, but perhaps the old artisans, seem evident.

At Jhukar now the goblet is painted with Jhukar moSimilarly, evidence from Nausharo IV, Mehrgarh VII, Harappan settlements in the Makran, such as
tifs. So if one is looking for elements in the archaeoSibri and Priak indicates new influences showing fragmentary. At Nausharo, the final phase of peSutkagen-dor, due to falling sea levels, which also

logical
record
of
new

too many intrusive elements and similarities with the riod II contains distinctive pottery similar to that ofaffected some sites in Gujarat, including Lothal. bird-hArchaeological Complex to be

Cemetery-H cultures with their larger distribution also Kulli-style clay figurines. In addition, there areThe excavators of Chanhu-daro and Amri believed the Jhukar to be an intrusive and post

'trumpet-shaped'
Harappan element, The evidence at Chanhu-daro of other artifacts like bone awls, fire-places, head also located in the Kachi) and sites on the Bolan
rests and seals, and a totally different style of habi
route.

Sibri and the South Cemet y hole axe the cemeteries of southern Central Asia. A cemetation have perhaps not been sufficiently appreciThe excavators found that in pre-Harappan ated by Dales, Mughal, and Possehl. As Ratngar points out (2), the fact that Mackay found it difficult

lands, but these did not last into the Harappan pe
to isolate Jhukar material from Harappan was be
riod. The lapis lazuli that we would have expected
cause standing Harappan structures were occupied,
to come from Chagai, is now scarce. At Nausharo
disturbed, and modified - not because one culture
scored goblets and other ceramic elements of the
grew, little by little, out of the other.
tail end of the Harappan period are absent and the Another reservation one can voice about thematerial culture shows, in level IV, fewer links with
idea of Jhukar being little more than a new ceramic
Sindh than with eastern Iran and Turkmenistan.
style is that in Mackay's report on Chanhu-daro
Burials

'Jhukar' means not only a certain kind of pottery but also (i) huts constructed of brickbats and matting; 456(ii) fireplaces outside huts or indoors in wall recesses formerly occupied by doorways; (iii) a profusion of bone awls used for making mats; (iv) round or occasionally rectangular seals with basic geometric motifs (except for a few showing animals or a beautifully executed knot design); (v) short barrelshaped bronze tools and pins with spiral or other sorts of ornamental heads. Further study will probably reveal more such items and that 'Jhukar' was indeed what we can call an archaeological culture, not a diluted form of the Harappan. Another area of our immediate interest in context of the post-Harappan landscape in Sindh is the Kachi plain. The Kachi is an extremely arid and inhospitable area immediately west of the lower diluted form of the Harappan.

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than declining. Harappa is perhaps the only urban

camel
Copper/bronze shaft
(probably domesticated, centuries earlier, in
by
their
center where it has been possible to trace the bones.
Mughal (digging at Jhukar) and Dales (who
appear to be claimants to that title. seen as a purely local assemblage. With these new much
Turkmenia)
are
represented
Another area of our immediate interest in
Among artifacts there are Murghab type stonefrom a pot. There are cups and a rather unusual straight context of the post-
Harappan landscape in Sindh is re-excavated Mohenjo-daro) are of the opinion that
sided shallow dish and, a carinated bowl, both on the Kachi plain. The Kachi is an extremely arid and the Jhukar is only a late developed ceramic tradition
stands. The shapes and motifs on the Jhukar pot by theinhospitable area immediately west of the lowerand not the sign of a new culture in Sindh, leave
tery differ from the Harappan styles and there are Indus alluvial plain and lies at the terminus of a alone the remains of intrusive Aryans (29, 31, 32).
some innovative technical changes in the use of
world route across southern Afghanistan and northas a Mughal argued that at the site of Jhukar, Mature fluted
piece, in a probable Jhukarnew pigments to produce different color effects onRound ern Baluchistan. On this tract, that was
watered by Harappan pottery was present in all three phases n e a r the pottery designs.the surface of the mound to the south of the circuwhich
However, there is enough continuity that the
of Nausharo has pre-Harappan as well as Harap
means that it was only an evolving ceramic tradi
new Jhukar style does not appear to signal a break (a site been eroded, but the floor of the firing chamber
tion. Possehl, too, stressed the absence of stra
was pan levels (I to III). Level IV, in parts eroded or dis in the sequence, as Ernest Mackay had thought were confound
turbed by graves of recent times, has pottery in thewhen he discovered Jhukar pots in the 1930s
attigraphic breaks between the Harappan and Jhukar
Upon excavation it became clear that this was a
Harappan tradition as well as Kulli-like round jars Chanhu-daro.new form of kiln with a barrel vault and internalSuch a continuity of cultural traits
and painted goat friezes around pots. There are
The important point about Dales and
has also been documented by Rafique Mughal (29) ”, almostalso Kulli-style clay figurines. In addition, there areMughal's observations is chronology: one kind ofand tools and Dales (31) at the site of Jhukar and at Mohenjo 'trumpet-shaped' vesselsdaro; and most recently by Heidi Miller (30) atmaterial culture does not follow on the other, but
other elements reminiscent of those at Sibri (a sitearesupport the floor (20). Additional evidence beAt
also located in the Kachi) and sites on the Bolan
cannot be offered for the co-existence of Harappan
Chanhu-daro, Miller describes the settlement as
ose found in Central Asia. The culture that is rep

resented"haphazard and less focused" during this transi and Jhukar pottery. In certain strata at some sites,
The excavators found that in pre-Harappanor Kot Dijian pottery likewise occurs to
times Nausharo had links with the Baluchistan up
gether with Harappan pottery and no one has de
many sites in the Lower Indus. The square stamp
lands, but these did not last into the Harappan pe**and**nied the distinctness of any of these as cultural
seals are replaced with circular ones bearing new
455
have proposed that the Bactro- Margiana region
motifs and the terracotta female figurines associ
to come from Chagai, is now scarce. At Nausharoideologies and cubical stoneBaluchistan had always been within the sphere of
scored goblets and other ceramic elements of theweights, both signature artifacts of the civilization,
Harappan culture since at least the fourth millen

tail end of the Harappan period are absent and the are rare. The Indus script also disappears, save for
material culture shows, in level IV, fewer links withexamples incised on pottery (29). Jhukar and the

Sindh than with eastern Iran and Turkmenistan.
associated sites were merely a shadow of the Late
ancient lines of communications passing through
sample above from eastern Iran
near the earlierBaluchistan or along its eastern borders. The Ma
(Mehrgarh South Cemetery) fitted this pattern, con
influences, there appears to be a gradual change

upheavals from around 2000 BC and the Indus with a steady reduction in the characteristic Harap
Valley saw a precipitates decline in trade econpan elements and their replacement by a new Jhuomy in its own realm. The Makrani ports no longer

kar style reflecting a distinct shift of craft tech
H niques. There was a withdrawal of certain distinctive

the Indus region. At Mundigak (southern Afghanielements of life, such as the Harappan seals and
stan) a considerable reconstruction of a massive the use of writing. The same may be implied by the

brick structure is found over the ruins of the pal
Heavily
the Bolan and other mountain streams, the mound
lar platforms. The upper portion of the kiln had
sudden appearance of circular or square stamp
ace of an earlier period. Copper stamp seals
seals of stone or faience. The documentation of
settlement in Sindh during the Jhukar period, the
continue into V. The evidence in this region

seems to suggest that there was a substantial change in the settlements, in the style of pottery and in its

manufacturing techniques. At Nausharo,

Fig. 14. Artifacts from western Pakistan showing affiliathe final phase of period II contains distinctive **tion with Iran** pottery similar to that of the cemeteries of south

ern Central Asia (formerly of the Soviet Union). A bronze mirrors with tangs for fitting into wooden handles, as at Hissar, Altyn-depe, Goner 1, Sapalli, Dashly,Shahdad and Khinaman, and Mehi some of them with a handle shaped as a human body - also occur at Harappa and Mohenjo-daro. Twelve such mirrors occurred in graves at Harappa and one in a Kalibangan grave (33). Rissman has remarked that in Harappan graves it was mirrors rather than any other bronze item that tended to be deposited, and that only one such shaped bronze tools and pins with spiral or other sorts of ornamental heads. Further study will probably reveal more such items and that 'Jhukar' was indeed what we can call an archaeological culture, not a diluted form of the Harappan.

Another area of our immediate interest in context of the post-Harappan landscape in Sindh is the Kachi plain. The Kachi is an extremely arid and inhospitable area immediately west of the lower Indus alluvial plain and lies at the terminus of a world route across southern Afghanistan and northern Baluchistan. On this tract, that was watered by

mirror occurs in a Harappan hoarded treasure. Indus alluvial plain and lies at the terminus of a Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph world route across southern Afghanistan and north p

A Central Asian type Copper/bronze cosmetic bottle and
its pin from Mehrgarh Cemetery (late period)bronze**A Central Asian type Copper/bronze cosmetic bottle**
Gonur I has counterparts at Hissar, Shahdad,
and its pin from Mehrgarh Cemetery (late period)
Kirman as well as Mohenjo-daro. Harappa and Chanhudaro each have a single bladed socketed
Notwithstandingthecontinuityshownby tery south of Mehrgarh and another at Sibri con
axe (Socketed axes were not part of the typical Mughal and Dales,
the Jhukar culture contains a
tain equally distinctive pottery and bronze objects
Harappan repertoire). Fig.13 depicts two Indus
number of intrusive objects, such as round button socketed axes in comparison with a sample from show remarkable affinities to the cemeteries of
seals, which find their closest analogues to the finds
eastern Iran. There are also compartmented seals
Harappanwhose faces bear raised geometric designs, from saw thefrom the Bactria-Margiana Archaeological Complex.of
Similarly, evidence from Nausharo IV, Mehrgarh VII,
Mohenjo-daro, and the white steatite stepped seal
Sibri and Priak indicates new influences showing
with a stylized eagle from Harappa has Bactrian
too many intrusive elements and similarities with the
from Cenotaph
Bactria-Margiana
connexions. A similar situation is at hand when we
/bronze Archaeological Complex to becompare the artifacts found in the post-Harappan Patterns of sea trade

through the Gulf altered as

vessels from Grave 1; E ern Baluchistan. On this tract, that was watered by the Bolan and other mountain streams, the mound of Nausharo has pre-Harappan as well as Harappan levels (I to III). Level IV, in parts eroded or disturbed by graves of recent times, has pottery in the Harappan tradition as well as Kulli-like round jars and painted goat friezes around pots. There are also Kulli-style clay figurines. In addition, there are

abandonment 'trumpet-shaped'

other elements reminiscent of those at Sibri (a site also located in the Kachi) and sites on the Bolan route.

A Copper/bronze shaft-hole axe-adze from Sibri, near
Fig. 13.c. A copper/bronze shaft-hole axe from Sibri,
Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal**near Mehrgarh, Baluchistan. Note the similarity with** shafthole axe-adze from Sibri.pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze
the figure 13.a.
ture Harappan occupations in the Gomal, Zhob,
Mughal (digging at Jhukar) and Dales (who
re-excavated Mohenjo-daro) are of the opinion that
seen as a purely local assemblage. With these new

Mesopotamia experienced political and economic influences, there appears to be a gradual change upheavals from around 2000 BC and the Indus

with a steady reduction in the characteristic Harap
Valley saw a precipitates decline in trade econ
the Jhukar is only a late developed ceramic tradition

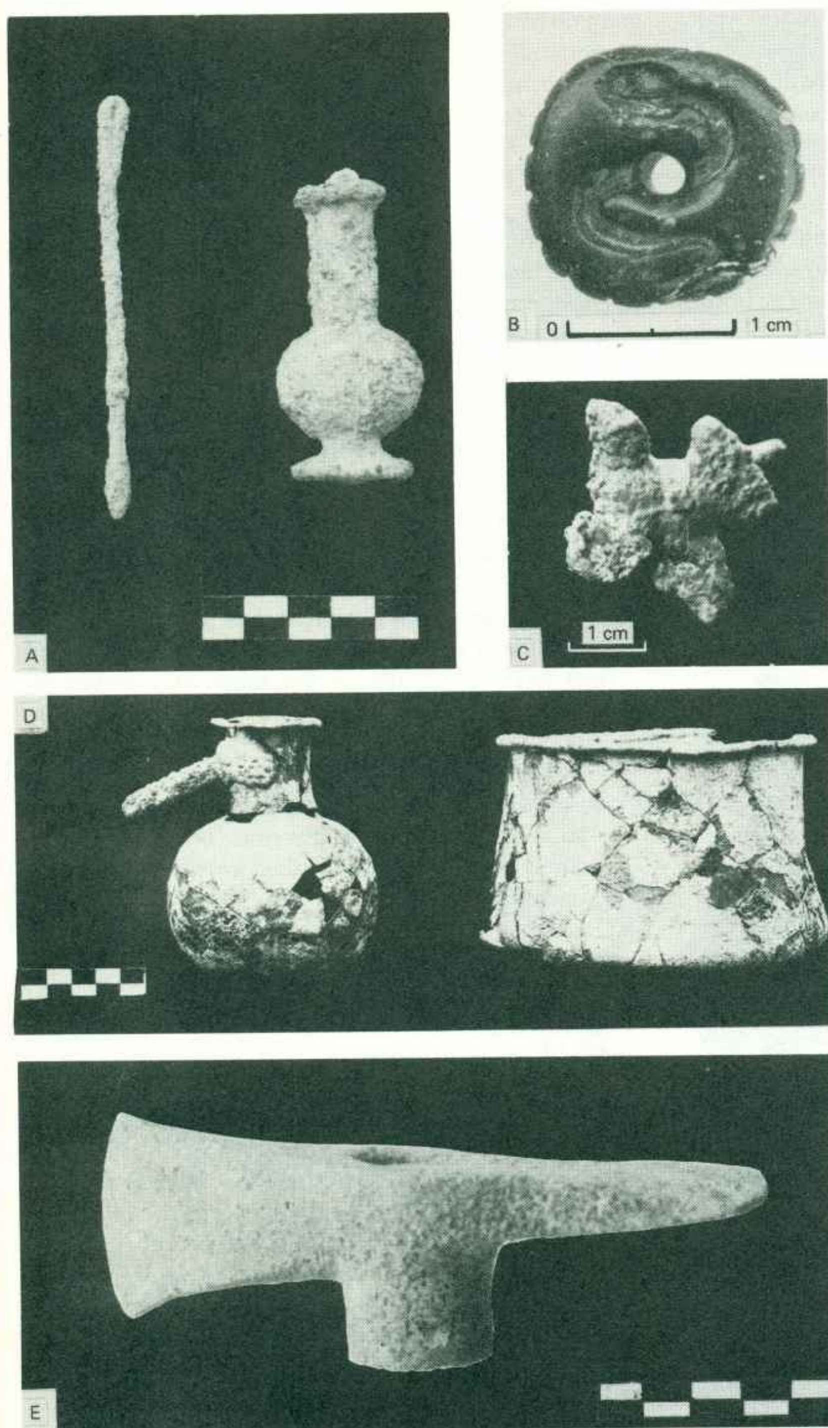


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

pan elements and their replacement by a new Jhu
and not the sign of a new culture in Sindh, leave
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acted as the entry point for sea trade on behalf of
alone the remains of intrusive Aryans (29, 31, 32).
niques. There was a withdrawal of certain distinctive the Indus region. At Mundigak (southern Afghani

The excavators found that in pre-Harappan times Nausharo had links with the Baluchistan uplands, but these did not last into the Harappan period. The lapis lazuli that we would have expected to come from Chagai, is now scarce. At Nausharo scored goblets and other ceramic elements of the tail end of the Harappan period are absent and the

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B. Stone button-seal
Mughal argued that at the site of Jhukar, Mature
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elements of life, such as the Harappan seals and
stan) a considerable reconstruction of a massive the use of writing. The same may be implied by the

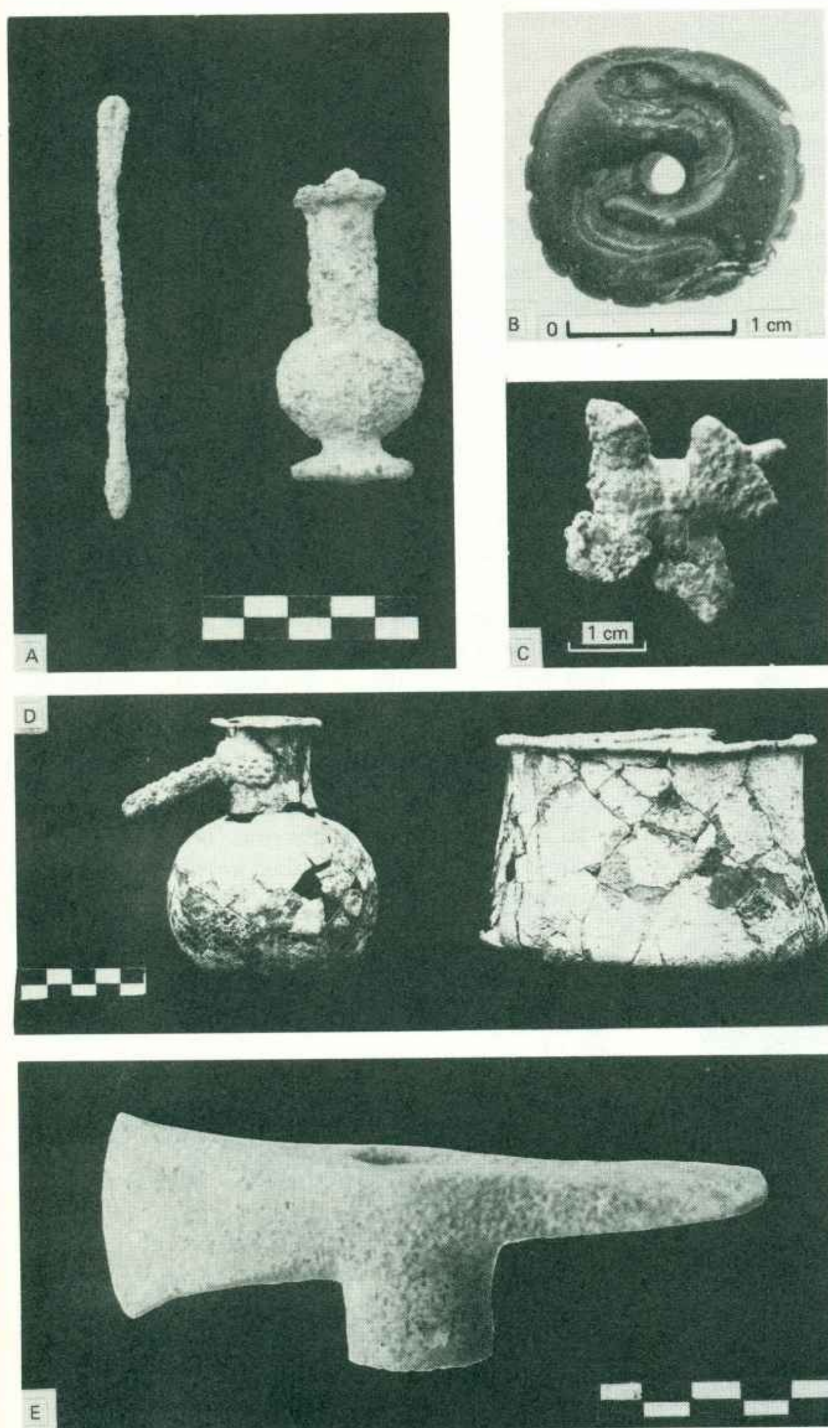


Fig. 8.1. A. Copper/bronze cosmetic bottle and its pin from Cenotaph 2; B. Stone button-seal from Cenotaph 5; C. Copper/bronze bird-headed pin from Cenotaph 1; D. Copper/bronze vessels from Grave 1; E. Copper/bronze shaft-hole axe-adze from Sibri.

material culture shows, in level IV, fewer links with
sites in Baluchistan and Sindh with those from greater Iran (Fig.14)

The purpose here is not to elaborate on a list of similarities between the regions, for such an exercise often tends to neglect context and cooccurrence, and simplistic conclusions are drawn about 'trade' or 'migrations'. The point is, instead, to highlight the relevance of the happenings in the Harappan region, and suggest that there may be some interconnection between the changes in material culture in the Indus Valley and and events in the western region

The Indo-Gangetic Divide: Punjab, Haryana and Northern Rajasthan: The Indo-Gangetic Divide, that is, the Indian Punjab, Haryana, Ghaggar flood plain, and northern Rajasthan, is as important in the study of the post-Harappan cultures as the area in Kutch and Saurashtrta, described below. A few important Harappan sites, such as Kalibangan, Bananwali, Rakhigarhi, existed in this general area, where some local cultures, such as Bara and Sothi-Sisal, were also developing during the period of the Harappan Civilization. The LateHarappan culture often overlapped these local cultures and occasionally coexisted with them at some sites. As the Harappan Civilization started to disintegrate, these local cultures saw their reemergence all over the area. Some of the vestiges of the Harappan material cultures continued for sometime but eventually disappeared completely.

Sonawane and Majumdar have discussed the post-Harappan cultures in Indian Punjab and Haryana in some details (34) and confirm the above depicted scene. From their account, it is clear that parts of Haryana and Indian Punjab was inhabited by some Pre-Urban communities before the advent of Urban Harappans in this region and continued their occupation even during the urban phase. These are the Kalibangan I and the Bara Ware cultures which had an independent existence all through the Harappan occupation and came into prominence again during the PostUrban phase. It was during this Post-Urban phase that the region was penetrated by agropastoralists from the Indus Valley. There was an increase in the number of post-Harappan settlements that witnessed a return to a cultural mosaic not unlike the one found during the Pre-Urban phase in this area (35)

The pottery produced in post-Harappan settlements in this region is said to display features of form, decoration, and fabric derived from many sources, including Harappan, Sothi-Siswal, Jodhpura-Ganeshwar, Cemetery H, and Jhukar wares and even Iranian wares. Other materials in these settlements include copper artifacts. Houses were generally rectangular and were constructed of mud bricks. Bara Ware which made its appearance during the urban Harappan phase becomes predominant now but a number of antiquities of the urban Harappan occupation continue. Faience artifacts are found in large quantities. This material was largely used for bangles with incised designs, but beads and other objects are also known. One of the interesting finds is a faience figurine of a stag with a horizontal hole recovered from Mirzapur. Steatite beads become rare and only a few disc-shaped beads were found from Mirzapur. The copper and bronze vessels, alabaster cups and objects of lapis lazuli, shell and ivory are also rare and absent in the later phase.

In short, the post-Harappan Culture in this region is characterized by Bara Ware with the addition of the Pre-Urban Harappan and some Cemetery H wares. By this time the Bara Culture has adopted many a trait from the Harappans and it is difficult to distinguish between the two cultures. On this account it is pertinent to ask whether the post-Harappan phase in this region was actually post-Harappan, a complex which was transformed from the Urban Harappan after losing all the urban traits or was it a modified form of the Bara Culture? The emergent picture shows that it was the Bara Culture which

continued during the post-Harappan times, some of the features of the dominated the Sutlej and Ghaggar valleys in the post-Harappan era of the core region.

In this region the post-urban site of Hulas is remarkable for having yielded good evidence on the agricultural economy. There was not only cultivation of crops like barley, wheat and peas in the Harappan tradition, but also of indigenous crops like rice and ragi, plus pulses including green gram. A sudden increase in small settlements indicates an equally rapid change from predominantly hunting-gathering subsistence system to agriculture and pastoralism. The increase in the number of settlements obviously did not come merely because of the immigration of the Indus people from the west but also from an inherent change in the subsistence economy.

Sizable communities had developed in the Ahar-Banas culture in western Rajasthan by the early second millennium, and some may by this time have been towns. Substantial traces of copper slag show that the inhabitants of Ahar were engaged in large-scale industrial activities. A stone and mud brick wall was built around the inner part of the Balathal settlement, thought to contain the residence of the settlement's leader. Elsewhere in the settlement was a complex of residential rooms and workshops, including a kiln, and another complex that may have been used for storage and food processing as well as housing.

Gilund, recently excavated, included a substantial building subdivided by crosswalls into rectangular cells that contained pits and clay bins: The building seems to have been used for storage and may have been a community facility under the control of the town's leader. One bin concontinuing with

Harappans, and tained more than a hundred clay impressions of seals, which suggest some degree of bureaucratic control and management. The impressions are remarkably similar to the geometric designs of seals used by the people of the Bactria-Margiana Archaeological Complex (BMAC), providing startling new support for the indications of contacts and perhaps the movement of people from this Central Asian culture. Others resemble Jhukar seals from Chanhu-daro and different seals from Pirak and Nindowari. Button seals in Jhukar style have also been recovered from Gilund. This gives added support to the picture of considerable cultural interactivity, exchanges, and probably the movement of small groups of people throughout the region from Central Asia to Central India.

In Haryana, particularly in the valleys of the flood plain of Ghaggar, the settlements representing the post-urban Harappan phase are comparatively more frequent than the urban phase. There are many small rivers in this region which are part of the Ghaggar system. Unlike the middle and southern Ghaggar valley, water was not much of a problem during Harappan times in its upper region and hence we find a good deal of evidence relating to the post-Urban Harappan phase. It was observed that most of these later sites are located away from the perennial rivers or found generally outside the flood plains of seasonal streams. The excavations carried out at Banawali, Balu and Mitathal revealed a cultural sequence starting from Pre-Urban to Post-Urban through the Urban phase, while Siswal excavations showed a sequence up to the Urban Phase. On the other hand, the site at Bhagwanpura tells the story beyond the Post-Urban phase, to a point of overlap between an amalgam of various trends derived through a long process of devolution from the Harappan, Baran and Kalibangan cultures to the Painted Grey Ware culture.

The post-Harappan Kutch and Saurashtra: In Gujarat the transition to post-Harappan began early, perhaps by 2100 BC and continued a little longer, perhaps as late as 1700 BC. This region had always maintained a degree of local distinctiveness: for example, pottery styles characteristic of the pre-

Harappan periods, such as Prabhas Ware, continued in use alongside Mature Harappan pottery. Sites like Lothal had been fully integrated members of the Indus ecumene; others, such as Somnath, less so. By the end of the third millennium, however, even previously well integrated sites such as Lothal were beginning to drop out of the Mature Harappan way of life. Instead of high-quality flint brought in from the Rohri Hills in Sindh, stone tools were now made of local stone such as jasper and agate. Mature Harappan pottery declined in quantity and was replaced by an increased quantity of traditional local wares, such as Prabhas ware, and by new wares, in particular Lustrous Red ware, a bright red ceramic that became dominant in Gujarat sites like Rangpur during the early second millennium and that was later also used farther afield in the Deccan, reflecting trade, population movement, or both.

In the post-Harappan period in Kutch and Gujarat the number of sites drops by one-third. There is also a significant drop in the average size of sites. Total settled area, as determined from the settlement surveys, is reduced to half. These are definite indicators of deep change in the system of settlement and, probably, subsistence and the socio-cultural system generally. But there is another theme in the transformation process here. At Rojdi the site was expanded and rebuilt just at the time Mohenjodaro was being abandoned, and Harappa came to an end as an urban centre. Thus, while we have evidence for fewer and smaller villages, at least some of those that survived have signs of a sound economic base and did not depend on the Harappan economy. At about 1900 BC, the signs of manufacturing and trade disappeared, and Lothal shrank to a squatter's settlement.

A similar fate befell Kuntasi. Both indicate the collapse of the urban culture in the core area of Sindh. Lothal, Kuntasi, and Dholavira were essentially urban "colonies" of the Sindhi Harappans, which made them vulnerable to severe change at the beginning of the Post-urban Harappan. Rojdi and other places that were farming communities, not deeply involved in the acquisition and processing of materials or in the transport that was part of the commerce, were insulated from the catastrophic changes in Sindh. But places such as Dholavira, Kuntasi and Lothal succumbed.

The regional city of Dholavira declined and was then abandoned. It was re-occupied after perhaps fifty years as a small settlement of poorquality houses that lasted for about a century before again being deserted. At many sites, such as Rangpur, brick architecture was abandoned in favor of other styles of construction: wattle and daub with a wooden framework, or stone foundations on which walls were built of mud, and in most cases thatched roofs. The construction of bathrooms and drains ceased. The warehouse at Lothal went out of use.

The earlier half of the second millennium saw a very considerable increase in the number of settlements. This probably reflects the change to new crops: Mature Harappan agriculture had used wheat and barley as the staple crops and in Gujarat native millets had also been important; now bajra and jowar, drought-resistant millets that were high yielding, free threshing, and well suited to the environment of Kutch and Saurashra, became increasingly important. Rice may also have been cultivated at some sites, such as Rangpur. Patterns of sea trade through the Gulf altered as Mesopotamia experienced political and economic upheavals from around 2000 BC, causing a major retraction in its trade.

The change was, however, not abrupt and a continuity has been seen in the form of degenerated Harappan culture at most of the Harappan settlements. Therefore, keeping in view the radiocarbon determinations from different known sites and reanalysis of the excavated data it has been felt that the occupations during Lothal B, Rangpur IIC and III, Rojdi C, Kuntasi II, Padri IIIB, Prabhas Patan II and

III, Vagad IB and IC and Dholavira stages VI and VII marked the onset of PostUrban Harappan phase in Gujarat. Apart from these excavated sites, where habitational strata have shown continuity in Harappan occupation from Urban to Post-Urban phases, the excavations at Kanewal, Nesadi, Ratanpura and Oriyo Timbo demonstrate an independent existence of this Post-Harappan phase.

Though certain pottery forms like 'Indus goblets', beakers and 'S' shaped jars almost disappear, other characteristic ceramics, including perforated jar, continue with slight changes in shape and decoration. The fabric, however, became coarser and in painted designs linear patterns became common in contrast to the diagnostic Harappan naturalistic decorations. The convexsided bowls developed a blunt or even sharp carination at the shoulder. The stem part of the dish-on-stand became squat while the projected dish acquired a beaded rim. Lustrous Red ware, characterized by high polished red slip became the prominent ceramic type. The white painted Black and Red ware also became more conspicuous by its presence. The Prabhas ware, distinct from Lustrous Red ware, treated with pinkish or orange wash with purple or dark brown painted designs mostly set in panels and registers suggest regional innovation. Graffiti on pottery, some of which resemble the signs of the Harappan script also occur, reminding us of the continuity of the earlier tradition, though in a reduced frequency. Although classical Reserved Slip ware totally disappeared, its crude variant as an imitation was found lingering at a few sites.

Other typical Mature Harappan material, such as stone weights, inscribed seals, and even beads, disappeared. In contrast, copper continued in use, perhaps reflecting the development of close trading relations with the Chalcolithic cultures to the east of Gujarat, Ahar-Banas, Jodhpura-Ganeshwar, and Malwa. Significantly, a number of the copper objects are of types known not in the Indus civilization but in the Chalcolthic cultures of Rajasthan and the Deccan.

In addition to the expansion of some previously occupied settlements, the earlier half of the second millennium saw a very considerable increase in the number of settlements in Gujurat. This probably reflects the change to new crops: Mature Harappan agriculture had used wheat and barley as the staple crops and in Gujarat native millets had also been important; now bajra and jowar, drought-resistant millets that were high yielding, free threshing, and well suited to the environment of Saurashra, became increasingly important. Rice may also have been cultivated at some sites, such as Rangpur.

In general, the post-Harappan period in Gujarat is characterized by relatively dispersed small settlements with no large regional centers (36). In Kutch the number of Late Harappan sites declines dramatically in contrast to the numerous small sites and regional centers of the Harappan Phase (14). In Saurashtra and mainland Gujarat Lustrous Red Ware sites are dispersed along major watercourses or wherever water sources were combined with seasonal grazing. The disappearance of characteristic features of Harappan material culture, such as seals and weights, indicates a breakdown in administrative and elite communities. However, other features of material culture do continue, including some pottery and ornament styles. Lustrous Red Ware pottery, which was being used along with Harappan pottery during the final stages of the Harappan culture, continues until around 1400 BC (34). The Lustrous Red Ware pottery is also often found in association with a style of pottery referred to as Black and Red ware which has strong cultural affinities to peninsular sites. Furthermore, the discovery of Lustrous Red Ware pottery at the sites of Navdatoli (Phase III) and Ahar (Phase IC) provide additional support for interaction to the east rather than with the West. The Late Harappan settlement patterns in Gujarat and changes in material culture reflect the gradual breakdown of the earlier Harappan state organization and the decentralization of political power. After 1400 BC there is

a break in the archaeological record at most sites until around 600 BC when another diagnostic style of pottery appears. This is the distinctive Northern Black Polished Ware that is associated with the Early Historic Period (see below).

From Copper to Iron: The late postHarappan cultures coincide with the introduction of iron in the Indus Valley. The transition from copper to iron raises a number of questions: Was iron smelting an accidental by-product of copper smelting? Were the smelting and working of iron well within the range of the technical expertise of coppersmiths of the post-Harappan cultures, or did they involve a gigantic technological leap at one of the regional cultures which were developing under the impact of western influence? After using metals such as copper and bronze for so many centuries during the Indus Civilization, why did some communities start making and using iron tools?

There are certain important technological aspects to these issues. Copper melts at 1083°C, while iron melts at the much higher temperature of 1534°C. Therefore, the smelting of iron requires furnaces that can maintain very high temperatures. Iron ore is associated with many more impurities than copper ores and requires the maintenance of a number of conditions for successful smelting. A temperature of 1250°C has to be maintained in the furnace for the separation of unwanted gangue materials from smelted material, a good blast of air has to be supplied to the furnace, along with constant supplies of fuel. Another important prerequisite is the efficient use of fluxes. A flux is a smelting aid, a substance added to molten ore, which combines with impurities to form slag that can be separated. The technology of carburization - heating the iron in association with carbon to make steel - was another important step that had to be mastered before iron came into widespread use.

The evidence of iron lumps, pieces, or artefacts from Late Harappan sites such as Mohenjodaro, Pirak, and Allahdino, indicates that certain chalcolithic communities were familiar with iron and were able to smelt it from the ores. Iron may have initially been extracted accidentally in the copper-smelting furnace when sufficiently high temperatures were attained, if there was iron oxide in the copper ore, or if a haematite flux was used to smelt these ores. But this represented an initial, experimental stage. The large-scale use of iron and the achievement of technical finesse in iron working was something that happened gradually and at a later stage in the postHarappan era.

Copper ores are not as widely available as iron ores, and it is possible that a shrinking of trade networks may have given an impetus towards the increasing replacement of copper with iron. This was especially so once the requisite technological knowledge of iron smelting and working had been achieved, and people realized the superiority of iron over copper and bronze in terms of hardness and durability.

The beginning of iron technology is not the same thing as the beginning of the iron age. A distinction has to be made between the presence of a few iron objects at a site and a significant use of iron. But how is 'significant use' to be assessed? This has to be done on the basis of the total volume of iron artifacts in themselves and in relation to those of other metals and materials, and by their nature and purpose. It is necessary to try to identify when people started using iron for everyday activities, especially for production purposes. In the case of the agricultural societies, it is necessary to try to identify when iron implements started being used in agricultural operations for making tools such as ploughs, hoes, and sickles. This marks the beginning of the iron age. As pointed out by Chakrabarti (36), iron ores suitable for pre-industrial smelting are found in all parts of the subcontinent, leaving aside the alluvial river valleys. A convenient source for the northern post-Harappan people, namely

the Cemetery H culture and Gandhara Grave Culture, was the iron ore deposits in the Salt Range, especially around Calabagh gorge of the Indus River.

Evidence from later Vedic texts suggests familiarity with iron and the use of iron in agriculture in the Indo-Gangetic divide in ca. 1000-500 BC. The evidence from archaeology gives more detailed and specific evidence for the beginning of iron technology and the beginning of the iron age in various parts of the subcontinent. Although lists of artifact types are available from several sites, more information on iron-smelting and ironworking sites is required. At least three early ironusing centers can be identified in the greater Indus Valley: Baluchistan, the North-West and the Indo-Gangetic divide. All these centers are located in or near iron ore resources and all of them have given evidence of pre-industrial smelting.

Iron objects of various types-vessels, j a v elin heads, sword blades, arrowheads, spear- heads, a horseshoe, and fishhook-have been found in cairn burial sites in Baluchistan such as Damba Koh,]iwanri, Gatti, Nasirabad, Zangian, Mughal Ghundai, and Bishezard. It is, however, difficult to date these burials. Some scholars date them between *ca.* 1100 and 500 BC. At Pirak in the Kachi plain of Baluchistan, there was a limited amount of iron in Level VI; iron artifacts increased in Levels IV and III. Arrowheads were the only iron artifact type. A blacksmith's furnace shows that iron objects were made at the site.

In an earlier section in this chapter, reference was made to the Gandhara Grave culture in the Pashtun country of Pakistan and the cultural sequence in the Ghalighai cave. Iron objects appear in Period VII of the Gandhara Grave culture and can be dated to the beginning of the 1st millennium BC.There was a basic cultural continuity between the earlier chalcolithic phase and the iron bearing levels. The iron objects included spearheads, arrowheads, pins/nails, spoons, rings, forks, and an axe. One of the graves at Timargarha yielded what appears to be the cheek bar of a horse's harness. At Sarai Khola, iron makes its appearance in the second phase of graves of Period III. The artifacts comprised two rings, a rod, and the iron clasp of a necklace. These may perhaps belong to the first half of the 1st millennium BC.

There has been a debate over the impact of iron technology on the history of ancient Pakistan. This debate has to do partly with the larger question of the role of technology in history, and partly with assessing the literary and archaeological evidence of iron in different areas at different points of time. Some of the older hypotheses, thought provoking as they were in their time, are not supported by evidence and need to be discarded. For instance, many decades ago, D. D. Kosambi suggested that the eastern movement of the Indo-Aryans was for the purpose of reaching the iron ores of south Bihar, and that a nearmonopoly over these ores was responsible for the political dominance attained by the state of Magadha (in south Bihar) in early historical times. These hypotheses are untenable, given the very wide distribution of iron ores in the subcontinent.

R.S. Sharma highlighted the role of iron axes in clearing the forests of the Ganga valley and iron ploughs in agricultural expansion in Punjab and the Ganga-Jamuna plains. He argued that the use of these implements was responsible for generating an agricultural surplus, which paved the way for the second phase of urbanization. Religions such as Buddhism were a response to the new socio-economic milieu generated by iron technology. Many aspects of this hypothesis were questioned. A. Ghosh and Niharranjan Ray argued that the forests of the Ganga valley could have been cleared through burning. Sharma's argument was, however, not supported by archaeological data. Makkhan

Lal described the idea of large-scale forest clearance through the use of the iron axe and the generation of an agricultural surplus through the use of the iron plough as a myth. He argued that there was no significant increase in the use of iron from PGW to NBPW levels, that iron technology was not an essential prerequisite for an agricultural surplus or urbanization, that the Bihar iron ores were not tapped during this period, and that the Ganga plains in fact remained heavily forested till as late as the 16th and 17lh centuries AD. He showed that the impact of iron technology was gradual, it manifested itself in the mid-NBPW phase when urbanization was well underway, and that sociopolitical factors had an important role to play in the historical transformations of the Ganga valley in the 1st millennium BC.

Conclusion: The period following the end of the Indus Civilization shows different trajectories in each major region. Based on the settlement hierarchies, most of these regional cultures appear to have been organized as chiefdoms. Broadly contemporary with the post-Indus Tradition, the adjacent regions were undergoing their own local trajectories of social and political change.

This transformation is not reflected in ceramics alone. Among other artifacts, long chert blades, a material that had been obtained from the Sukkhar Rohri hills of Sindh, was no longer available because of the steep fall in internal as well as external trade and were substituted for by smaller blades of locally available stone. Perhaps for the same reason, the cubical chert/agate weights, so diagnostic of the Urban phase are no longer found and replaced by truncated spherical weights of sandstone and similar material. Though terracotta beads become common, simple varieties of semi-precious stone beads and shell objects did continue to some extent because of the local availability of the required raw material. The absence of steatite micro and disc beads, in spite of local availability of raw material in certain parts of the region again reflects on the restricted movement of the artisans. In addition, there are stray occurrences of terracotta triangular cakes and sporadic finds of stamped seals with only inscriptions, devoid of the usual animal or other figure depictions. The overall decline in the material culture of this phase is also reflected on the use of metal objects; some basic Harappan technologies survived but a manifest continuity of the Harappan tradition is not observable.

Along with the development of several regional cultures, based on indigenous elements, a strong influence of western cultures is clearly noticeable and archaeologists in general have attributed this ‘foreign‘ impact on the migration of Indo-Aryan tribes in the greater Indus Valley. This melange of cultures eventually spread to the neighboring areas of India, especially in the Indo-Gangetic Divide, Kutch, and Saurashtra. This was a slow process indeed, it took almost a millennium to reach the Ganga-Yamuna plains. The widespread use of Iron took place during the late stages of this process.

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Chapter 7

The Vedic Aryans and Other Pastoral Nomads



From the last two chapters the reader must have gathered that as the Harappan Civilization was withering away the greater Indus Valley was witnessing a major historical event: a widespread intrusion of some pastoral nomads from the West, from eastern Iran, Afghanistan and Central Asia. Archaeological evidence for nomadic intrusion is hard to come by; nomadic pastoralists and passing-by invaders do not leave behind much evidence. However, in the case of the Indus Valley *ca*. 2000-1700 BC, archaeologists have found a few stray objects that seem alien in style: copper shaft-hole axe-adze of Iranian or Central Asian design and several daggers with midribs and holes where they had been riveted to metal handles, at Mohenjo-daro; similar objects from Chanhu-daro and Jhukar, including shaft hole axes, copper pins with decorated heads, and round or occasionally square compartmented stamp seals bearing geometric designs; a buffware pottery that is different from the Harappan style; and objects of Iranian and Central Asian affinity at Pirak and Sibri, can be cited as examples in the Lower Sidh. At Harappa is also detected the arrival of new peoples, the Cemetery H being one evidence. Additionally, Gomal Grave culture in the Gomal Valley and Pothwar, as well as the Gandhara Grave culture in Swat Valley, is taken as alien cultures in the northern Indus Valley. Among these intrusive traits in we notice the appearance of the horse which was obviously not known to the Indus people before 2000 BC. The exact chronology has not been worked out but it is believed that these intrusions stemmed from the time period of the Harappan devolution or just after the final stages of the Civilization, ranging from 2000-1700 BC. They are often referred to in historical literature as the IndoAryans. Among these were the Vedic Aryans who composed the hymns of the RgVeda and because of these we know much more about them than any other group.

In the last two centuries the Indo-Aryans, especially the Vedic People have been the focus of much attention in India and Europe. An immense amount of literature has thus accumulated. Most of this literature belongs to the religious category but its role in the interpretation of early history of the subcontinent has also been substantial. For a time the Indo-Aryans had become almost an obsession in academic circles and their role in the cultural development of this region is still being exaggerated in India. This overblown attention on the Vedas and the Vedic people has constantly deflected historians from examining analytically the beginnings of the Indian society and distorted the study of an important period in Pakistan's early history.

Notwithstanding this distracting factor, the Vedic people remain one of the most significant chapters in the prehistory of Pakistan. For one, it was a new cultural beginning for the people of the greater Indus Valley after the decay and demise of the Harappan Civilization. For another, it was the Vedic people who composed and preserved the earliest religious compositions in the world and this constitutes a valuable source of information for us on the post-Harappan Indus Valley during the second and the first millennium BC.

The RgVeda is particularly important for the study of cultural change in the western parts of Pakistan

during this momentous time in Pakistan's history. The hymns of the RgVeda were most likely composed in eastern Afghanistan, the Pushtun country of Pakistan, the Pothwar region and the Punjab. Sanskrit was initially developed in this area and its grammer was formalized on the banks of the Indus (Panini, the great Sanskrit grammarian of the early first millennium, was reportedly borne at Jahangeera in Pakhtunkhaw and worked at Taxila). It serves no purpose if Pakistani historians ignore this period of their history or Indian commentators make the Vedic people fly over Pakistan and settled them squarely on the banks of the holy "Sarasvati".



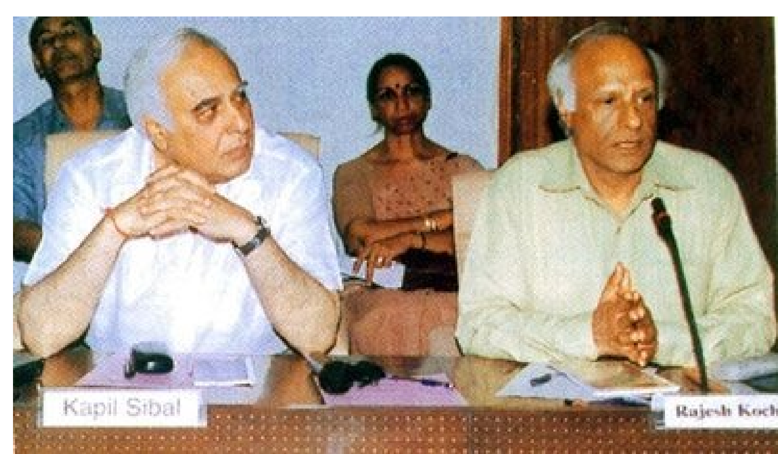
The literature on the Indo-Aryans is huge siderable historical change in Pakistan. This becomes evident from the large variety of local cultures that were developing throughout the Indus Valley and the areas to its West. Some textural material, especially the RgVeda and the *ZendAvesta,* also become available first time to augment (or distort) this archaeological record. Specialists may differ on the criteria for dating these texts, but we may go by the generally accepted dates. The *RgVeda* is assigned to roughly 1500 BC, although the later additions might be as late as 1000 BC. The earliest parts of the *Zend-Avesta* are roughly attributed to 1400 BC. Generally, the texts represent pastoralism and agriculture as the principal sources of livelihood. Besides these textural sources, we have the linguistic evidence of various types. All this is, of course, in addition to the archaeological find
ings supplemented
with evidence from a
variety of fields: geo
morphology, astron
omy, natural history,

and history of science

and technology. It is Chapterthus possible to ex

amine the evidence inThe Vedic Aryansits totality with a view

to placing the RgVe
dic people in a com
posite historical and



geographical context. **Professor Rajesh Kochhar**e m u t u a l l y The foregoing chapter discussed the intrusion of the TheVediclit erature is by far theexclusive. The archaeological evidence as represented by the Harappan tradition remains unsupportedIndus Valley byand is still increasing in India. In the West, howby any written acciunt. On its part, the textural tradition as represented by the Vedic literature remains during the second and first millennium BC. The Indo ever, the Indo-Aryan studies are in retreat. Badly largely uncorroborated by any firm archaeological evidence (Kochhar, R. The Vedic People - Their History and Geography, 2000 Aryans, who composed the hymns of the RgVeda, werediscredited by over-zealous championship in the source of information). RgVeda is not a work of history but combined with the meagerly available archaeological evidence, the RgVedic hymns can be used as a source of information on various aspects available to us about one of these tribes and are sometimes referred to as the nineteenth century and then by the fantastic of their life. We augment this information from that what we can glean from Avesta, a compilation ofVedic People. claims of the 'Vedic Scholars' in the last century, the life of the IndoZoroastrian religious hymns, and belonging to the same temporal horizon as that of the RgVeda. Both ofor the Vedic People have been the focus not only ofthese sources are complementary to each other.

mighty Aryans have fallen from academic favor.What kindAryans, especially discussions on the beginning of Indian history but also of

Questions tantamount to heresy amongst an earthat of the Vedic of people were these people and what type of connection do they have with the prehistory of Pakistanquestions of national identity of the Hindus in India. Anand India? The literature on this subject is immense, especially from India. Most of it is devotional,immense amount of literature has arisen in India duringlier generation of historians are now routinely dogmatic, repetitive, and rather superficial.people. As statedThere are, however, a number of well-written and analyticalthe past two centuries. Most of it belongs to the religious

raised as to who the

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earlier, this literatureattempts and we list a few of them in the Bibliography of this book. Here we take special note of an excellent summary of the subject, that is *The Vedic People: Their History and Geography* by late Rajeshcategory but its role in the interpretation of early Indian

from, and even whether they were really a distinctis immense; most ofKochhar, published in 2000. We take the liberty of extracting a sizable material from this publication. history has also been substantial although at times very

people. 'It is doubtful whether the term *arya* was it is devotional, dogThe Vedic corpus consists of the RgVeda and the associated texts. These texts were meticulouslymuchmemorized by select priestly families who transmitted them orally from generation to generation. Theexamining analytically the beginnings of subcontinental ever used in an ethnic sense,' writes Vedic literature has been famously compared with an old gramophone record which has faithfully Romila society.

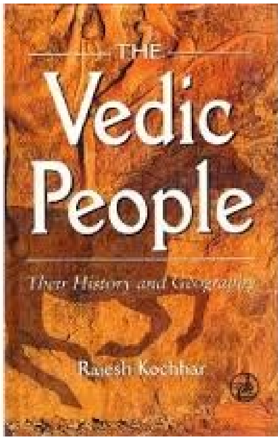
Trapper. What she calls the 'Aryan problem', or

preserved the original recording (rather superficial.Kochhar, R. The Vedic People - Their History and Geography, 2000). There are, however, others who do not put much faith in this type of transmission for such a long period ofbeing regarded as "perhaps the biggest red herring that 'myth', is now to be regarded as "perhaps the bigtime (There are, however,Leach, Edmund Aryan Invasions over Four Millennia, in, The Decline and Fall of the Indus wasCivilization, Nayanjyot Lahiri , ed. 2000of well). At best, they compare this orally transmitted literature with an(Thappar,R. The Study of Society in Ancient India, in

Ancient Indian Social History, p. 190 Information
distinct traditions, archaeological and textural.
Unfortunately, however, the two traditions are by and

gest red herring that was dragged across the path
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audio cassette which has been dubbed bad redubbed so many times that it is not an easy task to

of India's historians" (1). As John Keay noted:separate the original signal from the accumulated noise.



"The authenticity of all those Sanskrit literary attempts and we list
compositions remains undisputed. So does their
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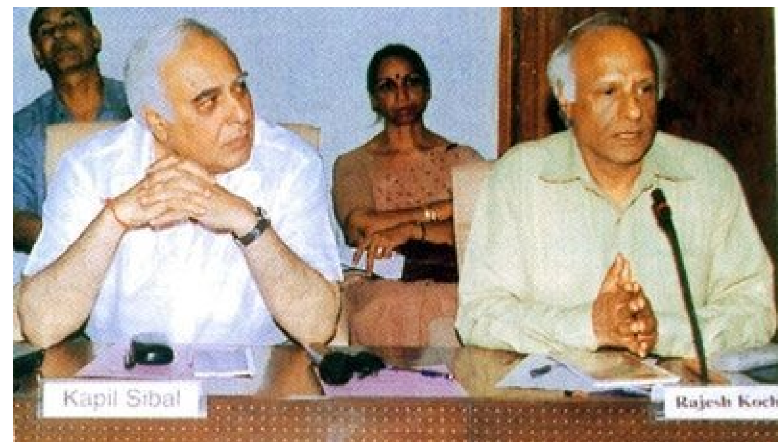
Bibliography of this large mutually exclusive. The archaeological evidence as representedseminal importance in India's social [one may also book. Here we take special note of an excellentby the Harappan tradition remains unsupported by any written acciunt.add

Pakistan] cultural and religious development. Both in India and Europe, the Aryans have been thought of as a race in the genetic sense *The Vedic People:*On its part, the textural tradition as represented by the Vedic literature But whether those who composed them wereand have been credited with many cultural achievements. In India socio-economic reformers led by
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Their History and Geography by late Rajeshremains largely uncorroborated by any firm archaeological evidence Indian traditions and sought the sanction of the Vedas, the earliest extant Aryan literature, for their ideas. (Dayanand Saraswati, who founded the Arya Samaj in 1875, laid stress on Aryan culture as the root of all Kochhar, R. The Vedic People - Their History and Geography, 2000
consciously endeavoring to retain their mainlySome scholars continue to believe in pan-Aryanism and go so far as to claim that India was the cradle ofRgVeda is not a work of history but combined with the meagerly
linguistic identity amongst a diverse, industrious,
world culture. Blind racial prejudice has led them to believe and propagate that every peak of Indianavailable archaeological evidence, the RgVedic hymns can be used as

cation.
cultural achievement must be Aryan; accordingly the authors of even the Harappan culture have been
and probably indifferent local population is ques
tionable.” (2).
The second half of the second and the first
half of the first millennium B.C. is a period of con

a source of information on various aspects of their life. We augment **Who were these intruders?** What kind of this information people were these Indo-Aryans and what type of compilation of Zoroastrian religious hymns, and belonging to the same connection do they have with the prehistory of temporal horizon as that of the RgVeda. Both of these sources are Pakistan and India? The hunch is that they were complementary to each other.

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Professor Rajesh Kochhar

What kind of people were these people and what type of connection do they have with the prehistory of Pakistan and India? The literature on this subject is immense, especially from India.

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exclusive. The archaeological evidence as represented by the Harappan tradition remains unsupported by any written acciunt. On its part, the textural tradition as represented by the Vedic literature remains them in the Bibliography of this book. Here we take special note of an

primarily the hill peoples from the west of the Indus River, specifically from Baluchistan, Siestan, the Pashtun country of Pakistan, and Central Asian region which we call Bactria Margiana Archaeological Complex (BMAC) and which include northern Afghanistan and southern Turkmenia and Uzbekistan. In historic times, there were numerous such raids and migrations, some initiated at long distances in Central Asia, some originating close-by in Afghanistan, some were internal movements from the Sulaiman mountain Range within the Pashtun country of Pakistan and some were age-old Baluchi tribes who off and on decided to settle down wherever they could find a congenial atmosphere. Sometimes they stopped at the River, sometimes they crossed it and reached as far as the Sutlej and Beas. Once in a while they even reached the Ganga-Jamuna plains. Invariably, some of these intruders settled in the Indus Valley and eventually became an integral part of the settled population of Pakistan. In other instances, the people of the outlying regions became the hangers-on to the intruders and participated in the pillage and loot further east. The Late- and post-Harappan raids, invasions and migrations were also of this nature.

Were these raiders and migrants the same people who composed the Vedas? We really do not know with any degree of certainty because the identity of the people of these raids and migrations in the

early second millennium BC cannot be proven. Most probably, the Vedic people were only one such group among several other linguistically related groups. There is also the question whether any of these Indo-Iranian or Indo-Aryan groups came in direct and active contact with the people of the Harappan Civilization, which was in retreat but still flourishing. Keeping in view the situation at Jhukar and Chanhu-daro, or that at Harappa, there is good possibility of such a contact. In any case, however, these early intruders do not necessarily imply that they have to be regarded as the direct ancestors of the (later) RgVedic people, as some archaeologists tend to think. For the sake of argument, the possibility of some contact between Aryans and Harappans can never be totally dismissed. As the dates for the Late Harappan phase have been slowly pushed forward to around 1700 BC, the gap, if there was one, between Harappan and the Indo-Aryans has closed to perhaps a couple of centuries. Across such a timespan, some web of collective memory could well have spread. At Harappa and elsewhere in the Punjab, where the Aryans initially settled, there is some largely ceramic evidence of comparatively sophisticated Late-Harappan cultures. They could represent a revival of Harappan skills under some kind of Aryan patronage or stimulus. Besides this, we have the evidence from western Sindh and the Pashtun country, which may as well give us some clues to these larger-than-life peoples.

A further issue is: Were these pastoral tribes intruding into a completely strange country with an utterly incomprehensible language, or were they taking hold of the areas where the inhabitants spoke a language that was related to the language of the intruders. In other words, did they bring their language to the greater Indus Valley or did there already exist a language gradient and bilingualism as it exists today? On the basis of ethnographic studies conducted in other parts of the world and keeping in view the role of pastoral nomads in spreading languages and culture, it can be confidently said that the Indo-Aryan


A modern nomad cooking her food

peoples were not coming to an unknown country; they knew the potential of the land and they probably did not speak a language which was utterly different from those spoken in the Indus borderlands. But these extensive prior contacts with the inhabitants of the region did not mean that they had the vaguest notion of how the Harappan or post-Harappan society worked. As shown by the behavior of the Mongols in their early campaigns, barbarians may be quite uninterested in previous institutions or in preserving the previous culture and population. And, as shown by Theodoric's

Ostrogoths and the various other invaders of Rome, a lack of administrative talent and/or will is to be expected in even the most ardently admiring of barbarian conquerors. This by itself is enough to explain the close empirical association between conquests by barbarians and the falls of civilization and states (3).

The objective of the historical raids was pillage, rounding off the cattle, looting the agricultural products, and obtaining ‘grazing rights’ for their sheep, goats, and cattle; this would have been the objectives of the raids on the western front of Pakistan at the tail end of the Indus Civilization also. This is, however, not an agreed-upon view. Ethnographers have traditionally, and perhaps correctly, placed an emphasis on the dominant role of ecology in determining the imperatives of movement of nomadic pastoralists and as a factor shaping society; indeed, comparative studies have almost come to regard nomadism as an ecological adaptation. Climate and terrain, availability of pasture and water, and types of animals herded, are seen to influence patterns of movement and forms of herding and camping associations. Thus nomadism is treated as a "trait of cultural ecology", characterized by "lack of interest in fixed property and fixed resources" (4).

Although sufficient literature exists on the above themes, there is a conspicuous lacuna on the ideological/cultural content of nomadic life as it relates to concrete administrative/political zones. The present-day nomads in the Pashtun country of Northwest Pakistan exhibit a defined ideological position which instructs daily life. We see the same situation, as extracted from the RgVeda, among the Vedic people, and this offers explanations for understanding the lack of their interest in sedentary life and a new socio-political order for a long time, and an inordinate delay in the reemergence of state in the Indus Valley and beyond. The state was traditionally highly organized, monolithic and bureaucratic. For the nomad, the state characterizes vast powers, movement restrictions, exploitation, taxation, and impersonal administration. He wishes to remain free of its tentacles. He can do so only by movement.

After the disintegration of the Harappan society, the material trappings of centralized polities came late to the Indus Valley - it is not always realized that the first archaeologically recognizable, large post-Harappan urban settlements are not earlier than the fifth century BC, or that the first substantial concentration of monuments and inscriptions (e.g., Taxila) is not much earlier than the time of Christ. Moreover, when solidly visible states do appear in sudden profusion in the late first millennium B.C., they lead curiously checkered careers. During the succeeding eighteen centuries, the entire Indus Valley produced no region-spanning state. Even the smaller states that emerged off-and-on lasted no longer than two or three centuries; the anarchical interregna were everywhere prolonged and severe. Yet the region was highly civilized. It was creative, populous, and rich. It was that way for more than a millennium. It should have produced large, durable empires to rival those of China, the Middle East, the Mediterranean, and Peru but it did not happen. The same situation prevailed in India. Why? The answer probably lies in the ideology of the pastoral nomads who were the architect of a new civilization in Pakistan and subsequently Ian new beginning in northern India.

The Aryans, Indo-Iranian, Indo-Aryans: The term *Aryan* was a nineteenth century concept, built on the theory of the interrelatedness of Sanskrit, Avestan, Greek, Latin and many other languages, and taking their ancestry back to a hypothetical Porto-Indo-European linguistic family, constructed from the cognate languages. Language was then equated with race. Few scholars, however, now use the word Aryan in a racial context. Instead, the terms such as Indo-Aryan, IndoIranian, or Indic are in vogue and they are devoid of any connotation of race. Indo-Aryan are an ethno-linguistic group

referring to the wide collection of peoples united as native speakers of the Indo-Aryan branch of the Indo-Iranian language family, which is itself a branch of an overarching linguistic group, the Indo-European. The RgVedic and Avestan people are called Aryan because that is how they described themselves in their texts.

There are scholars, such as Romila Thappar, who are to a great extent dogmatic in denying the people of RgVeda and Avesta the status of ethnic groups and view them as simply linguistic entities, with no reference to ethnicity (5). “It is doubtful whether the term *arya* was ever used in an ethnic sense,' writes Romila Thappar (1). This is perhaps an over-reaction to the hideous racial implication given to 'Aryan' by the late Nazi regime and its official philosophy. The reality is, however, that there actually were people in antiquity who called themselves *Arya* and were called Arya by others. The Achaemenid emperor Darius I (died 486 B.C.) speaks of himself as “an Achaemenid *(Hakhiimanisiya)*, Persian *(Parsa)*, son of a Persian, an Arya of Aryan descent' in his inscriptions. Therefore the Aryans were once an historic assemblage of human beings including both the Achaemenid clan and the Persian tribe. There were Aryan contingents (by that name) in the army of Xerxes, son of Darius, and it is known that the Medes who preceded the Persians formerly bore the name 'Arya'. Iran is derived from *aryanam*, '(the country) of the Aryans'. Though Greeks, Persians, and the people of Pakistan spoke Aryan languages, Alexander's contemporary historians used 'Aryan' to refer only to special tribes bearing that name, settled on the right bank of the Indus at the time. In the *RgVeda* the term *arya* refers to those using a particular language correctly but it also refers to those who performed accepted rituals, worshipping the right gods and belonging to a specific group of people.

The term Aryans should be reserved for the Vedic and Avesta peoples alone, and not used as an umbrella term for other Indo-Europeans who may have been contemporaneous with IndoIranian speakers but not associated with either the RgVeda or the Avesta. Furthermore, as Rajesh Kochhar recommends, when it is necessary to distinguish between the two groups the terms Indo-Iranian and Vedic people may be used (6). Here we shall use the *Indo-Aryans* as a general term to include both of these identifiable groups plus some other related tribes speaking a related language and sharing a common geography, but not specifically known to us. In order to differentiate the two groups, we would use the term *Indo-Iranians* or *Avestan* for the people who authored the Avesta and lived predominantly in Iran, Afghanistan and southern Central Asia; and the term *Vedic Aryans* or Vedic people, who authored the RgVeda and lived predominantly on the western frontiers of Pakistan and eastern Iran and Afghanistan.

Vedic Texts: The Vedic corpus consists of the RgVeda and the associated texts. These texts were meticulously memorized by select priestly families who transmitted them orally from generation to generation. This literature has been famously compared with an old gramophone record which has faithfully preserved the original recording (6). There are, however, others who do not put much faith in this type of transmission for such a long period of time (7). At best, they compare this orally transmitted literature with an audio cassette which has been dubbed and redubbed so many times that it is not an easy task to separate the original signal from the accumulated noise.

Vedic texts are priestly books that were composed over a long period of time by a large number of authors. It is not possible to say when their earliest portions were composed, but it appears that the bulk of the Vedic texts was completed before Buddha's time, *ca.* 500 BC. The earliest time bracket of the Vedic literature can be placed in the middle of the second millennium BC on the basis of

inscriptional evidence from Boghaz Koi in Syria and affinities with the culture and language of the Avesta.

The various texts went through many revisions and redactions in the hands of a number of independent schools, resulting in a multidimensional corpus. The core of the corpus is made up of the four *Samhitas* ("collection of hymns") of the RgVeda, SamVeda, YajurVeda and AtharvVeda. Attached to the *Samhitas* are the Brahmanas, which are prose texts devoted to an interpretation of the rituals. The Aranyakas ("forest books") are the concluding portions of, or appendices to, the Brahmanas. Aranyakas are not connected with the performance or explanation of sacrifices, but with mysticism and symbolism. The Aranyakas form a natural transition to the philosophical texts of the Upanishads, the oldest of which are either included in, or appended to, the Aranyakas. From the point of the historical sources of the postHarappan landscape, the four Vedas are more relevant than the other texts and within the four Vedas the RgVeda is the most important.

The Vedic literature is broadly classified into early Vedic (the four Vedas) and later Vedic literature (Athraveda, Brahmanas, Aranyakas and Upanishads). The literature reveals a continuous growth of culture characterized by Sanskrit language, variant system of society and polytheistic ideas and rituals including animal sacrifices and cremation of the dead.

The RgVeda: The Rgveda is a collection of 1,028 hymns (suktas) divided into 10 books (mandalas), of which Book 1 and 10 seem to be later addition. The number of verses in a hymn varies from just one to 58. The total number of verses is 10,462; thus the average number of verses per hymn is 10. The RgVeda is not a single-author book. Its nucleus is the Book 2 to 7 which are composed by named priestly families consisting of sons and pupils. In each of these *mandalas*, the arrangement of hymns follows a pattern. For example, the first group of hymns is addressed to Agni, the second to Indra, and the rest to other deities. Being the earliest of the Vedic compositions, the RgVeda is generally considered the most informative of the Vedic texts, although its clues to the lifestyle, organization and aspirations of the *arya* are 'submerged under a stupendous mass of dry and stereotyped hymnology dating back to the Indo-Iranian era [i.e. before the Aryans reached Pakistan], and held as a close preserve by a number of priestly families whose sole object in cherishing those hymns was to utilize them in their sacrificial cult'.

The RgVeda was most likely composed in eastern Afghanistan, the Pashtun country of Pakistan, the Pothwa region, and Punjab between 1700–1100 BC, probably some additions made as late as the end of the first millennium BC in IndoGangetic Divide. The geographical horizon of the RgVedic hymns gives us an idea of initial Aryan settlement in Pakistan. Though not adequately supported by the archaeological evidence, this is clearly borne out by the *RgVeda* which refers to the western tributaries of the Indus, the *Gomati* (modern Gomal), the *Krumu* (modern Kurram), the *Kubha* (modern Kabul), and *Hare (modern* Haro) The Suvastu (Swat) is the most important river mentioned to the north of Kabul. The name implies 'fair dwellings' and may be evidence for Aryan settlements in the Swat valley. A river, named Sarswati, is also mentioned with utmost reverence. Kochhar (6) identifies it with a river in east Afghanistan. The main focus of the later RgVedic culture seems to have been the Punjab and Haryana. Here the most frequently mentioned rivers are the Sindhu (Indus) and several other rivers of the Punjab.

The RgVedic language is much older than Sanskrit (*samskrta*, literally meaning "put together") which was the name given to the language on its regulation by the grammarians. The term Sanskrit first

appears in the Ramayana to denote the "refined" language as distinct from *Prakrit* (*prakft*, "natural"). The name Sanskrit is however often applied retrospectively to include the Vedic language, which is wrong.

In the fourteenth century AD, Sayana (d. 1387), prime minister to the king of Vijayanagar, wrote a commentary on the RgVeda. Such works as Sayana's are of great value today. There is now a flourishing industry which seeks to establish the RgVeda as a modern scientific text of great contemporary value. A large number of "Vedic experts" claim to have discovered in the Vedic passages references to the latest scientific discoveries, just as the Muslims all over the world find scientific truths in the Quran (What use is the so-called modern scientific content of the Vedas and the Quran if it can come to light only after the West has made scientific discoveries independently and explicitly and if even after that, the Vedic and the Quranic content cannot lead to further developments? Also, by definition a scientific conclusion ceases to be scientific if it is presented as a revelation).

Vedic translations tend to be literal and often incomprehensible. It is because of the obscurity of the allusions and the language. Both were probably just as obscure to those who first committed these hymns to writing in a number of different recensions, none of which is older than *ca* 300 BC. In other words, for at least one thousand years the ten thousand verses of the RgVeda were learned by heart and handed down by word of mouth. This, however, does not mean that they underwent significant change. Quite the contrary. As the recited accompaniment to the performance of sacrifices, their actual wording, even their intonation and their pronunciation, had to be perfect for the sacrifice to be effective. Conversely, a mangled syllable or an improvised coda could be fatal. Like the magician who forgets the magic formula, the supplicant could then find the sacrifice redounding to his disadvantage and condemning him to the very disaster he was trying to avert.

Such, at least, was the theory inculcated by those who made it their responsibility to shoulder this burden of memorized knowledge and so to serve as intermediaries in the communion of men and gods. Probably even they no longer used the elaborate constructions of Vedic language in their everyday speech, and were therefore unsure of the meaning of some of their hymns. Obfuscation was, after all, in their interest; like specialists the world over, they found that the jargon and ritual deemed essential to their arcane science were also well calculated to impress the layman. Originally these intermediaries may have been no more than tribal bards, seers *(risis)* and shamans, and were not necessarily of *arya* descent. They became more influential possibly as a result of their pastoralist patrons adopting a more settled way of life, which involved grappling with new techniques of cultivation and discovering their vulnerability to the depredations of climate and pestilence. More elaborate sacrifices were needed, and so was a more specialized band of sacrificiants. Thus eventually, and perhaps with popular encouragement, the bards and shamans of old developed into a hereditary class of priests or *brahmins*.

SamaVeda: SamVeda, the Veda of the Saman chants, consists almost entirely of verses taken out of the RgVeda for rhythmical chanting by the Udgatr priests at the time of sacrifices. There are in all 1,810 individual verses in the SamVeda. The number comes down to 1,549 if we exclude the repetitions. Of these, all but 75 are found in the RgVeda. Historically, therefore, the SamVeda has little or no significance. Its secondary literature, however, is of great value as its Brahmanas are among the oldest.

YajurVeda: The YajurVeda is the manual of a particular type of priest. Since variation is more natural in manual work than in work involving the tongue or throat, the Yajur corpus is wider than any other. It has two versions: black and white. Black Yajur prose is the oldest prose in the Vedic language. There are as many as six recensions of the YajurVeda, four of the Black and two of the white.

AtharVeda: While the RgVeda, SamVeda and YajurVeda complement each other by taking care amongst themselves of all aspects of the great sacrifices, the AtharVeda stands apart and lower in the hierarchy. It is a collection of 730 hymns containing some 6,000 stanzas, divided into 20 books. About one sixth of the text, including two entire books (15 and 16), is written in prose, similar in style and language to the Brahmanas; the rest of the text is poetry in the usual Vedic meter, but without the rigor of the other Vedas. Taken as a whole, the AtharVeda is a collection of charms and spells. These charms required the use of appropriate herbs. Accordingly, the AtharVeda is the oldest treatise on Indus medicine just as the SamVeda is on music.

The Atharvaveda was for a long time not considered a Veda. Once the AtharVeda was elevated to the status of a Samhita, it was provided with secondary literature. AtharVeda is not connected with sacrifices. Because of its emphasis on magic spells, some scholars think AtharVeda's origin primarily in the Harappan religion which is thought to be based on magic, spirits, and shamanism.

The Avesta and the Related Texts: The Avesta is the collection of Zoroastrian scriptures. Zoroastrianism was the state religion of three great Iranian empires, which flourished during the millennium 559 BC to AD 651. The first empire was founded by the Persian king Cyrus (ruled 559-530 BC) of the Achamenian family. The characteristic Zoroastrian symbol, consisting of a circle with the upper part of a male figure in it and a wing on either side, first appeared on the sculpwing on either side, first appeared on the sculp 486 BC). The dynasty came to an end in 331 BC when its last king Darius III was defeated by Alexander the Great.

The oldest part of the Avesta is the Gathas, a set of 17 hymns composed by Zarathushtra himself, in metrical form like the RgVedic hymns. Additional texts were composed and transmitted orally from generation to generation. In the process, they underwent improvisation till they were finally written down in the Sasanian period. The Avesta proper consists of three parts: Yasna, Visperad and Vendidad. The Gathas are included in the Yasna which, along with the Visperad, constitutes the liturgy for the priestly ritual. The Vendidad, a corruption of the term Videvdad, "the law against demons", is a prose work devoted to rules about the maintenance of purity and its restoration after pollution. In addition, it contains other assorted matters.

The language of the Avesta is called Avestan, because it is known only from this source. When the Avestan canon was closed, the spoken language was middle Persian, or Pahalvi. Pahalvi texts on the Avesta are a great help in interpreting the contents of the Avesta, especially the archaic Gathas. The most remarkable aspect of the Avesta from our point of view is the fact that its language is so closely related to the RgVedic language that one cannot be studied without the help of the other. The differences in grammar are very small. The chief difference lies in certain well-defined phonetic changes. It is quite possible to find verses in the oldest portion of Avesta which simply by phonetic substitutions according to established laws can be turned into intelligible Vedic language (7). The greater part of the vocabulary is common, particularly in the field of religion and culture, Table 1 lists a few words which are common in the Vedic and the Avesta literature. Unlike Sanskrit which has remained where Panini left it, Avestan made way for later languages (6).

The Avesta literature is pertinent to the history of Pakistan in the post-Harappan phase because of the contiguity of the Pashtun country of Pakistan with the area (Afghanistan and northern Iran) where the Avesta culture flourished. It is these intimate relationships between the people on either side of the Sulaiman mountains that gave Pakistan's culture and language an Iranian flavor. We may note that a number of modern Persian and Urdu words no doubt belong to Iran's pre-Islamic joint Vedic-Avestan heritage (Table 2).

A correct appraisal of the Avesta can be made only by juxtaposing it with the Vedic texts. In the Gathas, Zarathustra refers to himself as a *zaotar* (Vedic *hotr*), sacrificing priest, and a *manthran* (*mantrin in* RgVeda), a mantra-maker. In the younger Avesta, he is spoken of as an *athaurvan* (*atharvan* in Vedic), a fire priest. Tradition records that Zarathushtra was making preparations for a Haoma (Vedic *Soma*) sacrifice at a spring festival when he received his first inspiration (6).

Table 1: RgVedic and Avesta Vocabulary (6)

Sanskrit	*Avestan*	*Meaning*
Apām Napāt	Apam Napat	son of water, a divinity
Ārya	Arya	a people
Āryaman	Airyaman	member of a religious sodality
asura	Ahura	lord
atharvan	athaurvan	fire priest
deva	daeva	'god' in Ṛv, demon in Av
hiraṇya	zaranya	gold (zar in Persian/Urdu)
hotṛ	zaotar	sacrificing priest
jihvā	hizva	tongue
kṣatra	khshathra	field
makṣa	maksi	fly
Mitra	Mithra	a divinity
Nābhānediṣṭa	Nabanazdishta	in Ṛv, proper name (s/o Manu); in Av, adjective 'nearest in relation'
Nāsatya	Nanhaithya	a divinity in Ṛv, demon in Av
Pṛthu	Parathu	broad, also proper name in Ṛv. Cognate with Engl. flat and plateau
ṛṣṭi	arsti	spear
senā	haena	army
soma	haoma	a drink
Vṛtrahan	Varathraghna	slayer of enemy
yajña	yasna	sacrifice
Yama	Yima	proper name
s/o Vivasvat	s/o Vivahvant	—do—

There is some similarity between the Vedic and the RgVedic religions. Both are based on sacrificial ritual, although the RgVedic more than the Avestan. The RgVeda refers to a belief in a cosmic law that ensures existence in an orderly manner. It symbolizes the inherent unity and regularity in the universe. A similar concept is present in the Avesta. This eternal law is called *rta* in the RgVeda and *Rasha* in the Avesta.

There is an ethical aspect also: *rta* governs human behavior by treating virtue as a part of the natural order. The RgVeda also contains strands of a competing philosophy which glorifies might. *Rta* is represented by Varuna, who is called wise Asura, the wise lord (Rv 1.24.14) whereas the symbol of

power is Indra who is called *sahasramuska*, "with thousand testicles" (Rv 8.19.32). The contrast between the ethical Varuna and the mighty Indra is beautifully brought out in the RgVeda (4.42.1-6). Varuna declares: "I, Varuna, am the king; first for me were appointed the dignities of Asura. I let the dripping waters rise up, through *rta*, I uphold the sky. By *rta* is the son of Aditi the lord who rules through *rta*." Indra in his turn declares: "Men who ride swiftly, having good horses, call on me when surrounded in battle. I provoke strife, I, the bountiful Indra. I whirl up the dust, my strength is overwhelming. No godlike power can check me, the unassailable. When draughts of Soma, when songs have made me drunk, then both the unbounded regions grow afraid" (9). In this particular hymn, the poet refuses to make any value judgement between Varuna and Indra; he appeals to both for gifts and blessings. In Avesta, however, Varuna is the winner.

Table 2: Persian and Urdu words with Sanskrit/Avestan counterparts (6)

Sanskrit	*Persian/Urdu*	*Meaning*
āpat	afat	misfortune
aśva	aspa	horse
cakṣu	chashm	eye
duhitṛ	dukhtar	daughter (dhi in Punjabi)
dvāra	dar	door
grahīt	girift	gripped
hiraṇya	zar	gold
kṛṣi	kisht	agriculture
kṣīr	sheer	milk
saptaḥ	hafta	week
stan	pistan	breast
tṛṣṇa	tishna	thirsty > thirst
uṣṭra	ushtur	camel
vṛhi	biran	rice

the significance of fire. In the RgVeda, fire is a purifier; that is why dead bodies can be cremated. In Zoroastrianism, fire is pure; it is not to be polluted. Either way, fire is important.

Theinstitutions,customsandwaysof thought of the Vedic and the Avestan people are so similar that there can be no doubt the two peoples are very closely related. Both call themselves *Arya*, although in the Iranian context the term was reserved for the upper strata. (The name Iran itself is derived from *Arya*). Any statement that is made about the history of the Vedic people should not only be consistent

with the Vedic texts but also with the Avesta (6). This is specially true if we are considering the activities of the pastoral peoples - the Vedic, the Avesta, or otherwise - diffusing through the Sulaiman passes towards the Pothwar region and the Indus plains.

The Vedas as a Source of post-Harappan History: Extracting history from an ancient literature, based on oral tradition which were put to writing at least one thousand years after its supposed composition, is no easy task. First of all,

The point of departure between the Avestan and the Vedic religion lies in the emphasis placed by Zarathustra on ethical conduct to the exclusion of everything else. The supreme position in Zoroastrianism belongs to *Ahura Mazda*, the Lord of Wisdom (in Vedic: *Asura Medha*). Ahura Mazda is the uncreated God, who creates all that is good. From Ahura Mazda emanate other beneficient divinities, some of whom are known by name to the RgVeda. At the same time, Zarathushtra firmly and boldly reject the worship of the warlike, materialistic Devas, that is Indra and his companions. Devas are godly in the RgVeda; they are branded wicked by Zarathushtra. Also, there was a shift in there have been extensive additions and subtractions in the ‘texts’ during this long period of oral transmission. Second, critical editions identifying the original core of the texts are not available. The 19th century translations cannot be relied upon, and recent authoritative translations, whether in the European or Indian languages, are few. Third, a great deal depends on the interpretation of words and phrases, whose meanings may vary from one text and context to another. Fourth, the Vedic corpus was not a popular literature and, therefore, does not necessarily represent popular ideas or practices. It was composed, preserved, and transmitted by a section of the Brahmins. Fifth, we are not sure of its chronology. Many historians use a rough chronology of *ca. ca.* 1000 BC or 1500-1000 BC for the composition of the earliest sections of the Rg*Veda*. It is possible that parts of the Rg*Veda* were composed even earlier, perhaps in ca. 2000 BC, but there are limits to how far back its dates can be pushed. Sixth, we do not know where these RgVedic hymns were actually composed and what is their sequence. The uncertainty of the period of composition of the Rig Veda and the geography of its composition is a major problem in using this text as a source of history. The Vedas may have been arranged and compiled because of the desire of priests to create an authoritative text for the sacrifices they performed. We know from other sources that there were various recensions of the Rg*Veda*, which may have differed from each other in content, arrangement, and traditions of interpretation. Of these recensions, only the Shakala has survived into our own time.

The inherent limitations of the nineteenthcentury Vedic scholarship need to be noted. As stated earlier, the language of the RgVeda is highly obscure. The text is full of allusions and passing references for which no contexts are available. The problem is made worse by the fact that in the era of the Vedic studies no archaeological data were available. In the absence of any guidelines from either the field or the laboratory, a student of Vedic texts had to depend on his own intuition and guesswork. It is noteworthy that even in the field of literary interpretation, the important clues provided by the description about such things as *soma* were ignored (6). Indeed, if we consider the corpus of secondary work on Vedic texts in its totality, we find that almost all possible interpretations have been placed on record. As an illustration, consider the question of the identity of the RgVedic river Sarayu. The following answers are available: It is the river Sarju in Oudh; it is a river in Punjab; it is the RgVedic Krumu; it is identical with the united course of Sutudri and Vipas (6).

For a while, it was unquestionably asserted that the RgVeda was composed entirely within the geographical boundaries of the Indian subcontinent. It neatly made the Indians proud; it was

convenient to the European as the European conquest of India became second in the series. This myth was gradually exposed as analytical studies of the RgVeda and the Avesta started to come forth. It is now generally agreed that the geographical horizon of the RgVeda is northeastern Iran, eastern Afghanistan, the Pashtun country of Pakistan (Pakhtunkhaw), and the Pothwar plateau. Later compositions were probably added in Punjab and the Indo-Gangetic Divide. This geographic sequence is quite evident from the RgVeda. Rajesh Kochhar (6) has discussed this aspect in details. There are, of course, many detractors in India who still insist the composition of the RgVeda as "Indian".

Whether the Aryans entered the Indus Valley as invaders or migrants is a matter of detail; in either case it is implied that the Harappan Civilization was non-Aryan. This idea has been recently met with the counter-idea that the Aryans were the Harappans themselves, preferably originating from around the "Sarasvati" River (it is immaterial if this notion can be sustained only by a wholesale rejection of evidence to the contrary). There is another myth which is currently being taught in schools and colleges throughout India: whether the 'Aryans' came from the West or they originated locally in the Punjab, they were not only a civilized people, they bequeathed a glorious civilization to India. It is another matter that the RgVeda itself portrays the Vedic people as classical barbarians bent upon pillage and loot as their prime objective of eastward expansion. As a result of this mental chaos, many different kinds of histories of the Indo-Aryans have been derived from the Vedas. Nationalist historians of India extracted historical details from the texts but tended to idealize the "Vedic age". A subsequent trend was more dispassionate in approach, but concentrated on fitting data from the texts into long-term unilinear historical and anthropological models. Recent studies offer a more nuanced textual analysis. Nevertheless, when we talk of the 'Vedic age' or 'Vedic culture', we must be conscious of the problem of dating the Rig *Veda*, the religious and elite nature of the texts, their specific geographical contexts, and the availability of substantial archaeological data for the Indus Valley and other regions (10).

Referring to the difficulties in using RgVeda as a source, Piggott (11) says: "In the hymns the transition from the more or less literal to the wholly metaphorical is often sudden and frequently almost imperceptible. The physical warchariot of an Aryan chieftain turns, with bewildering rapidity, into the noon-day sun; the roistering young cattle raiders are suddenly the four winds of heaven. And the accident of survival of words descriptive of aspects of material culture is really dependent on their adaptability to religious metaphor and their appropriateness to the warrior aristocracy for whom the hymns were composed".

For some the RgVeda is no more than an account of wars waged by the gods and demons intermingled with misty mysticism. For others "the Vedic literature is imaginative or primarily concerned with religious ritual. It mentions many tribes, places, and rivers which are probably historical but for the most part they cannot be satisfactorily identified or located. The dividing line between events on earth and mythology is not clearly maintained in these poems and was probably not even logically conceived" (12). For still others, ".... chariots are described in such detail, but we hardly know what the Aryan house looked like" (13).

Forthesereasonssomescholars,like Emund Leach, refuse to consider the RgVeda as a source of historic events (7). He takes issue with the RgVeda as a possible source of IndoAryan's history in the Indus Valley: "....the RgVeda is basically a religious work and is without any historical references:".... "an oral tradition has been treated as if it were a datable written record and myth has been confused

with history as it actually happened.” And: “It is now well over a hundred years since European scholars first asserted that 3,500 years ago people in northern India spoke in the language of the *RgVeda.* The idea is odd in itself, since the language of the *RgVeda* is obviously religious, dramatic, and poetic rather than vernacular. We would not expect to be able to learn much about the colloquial speech and everyday customs of fourth-century Britain if the only available evidence was a copy of the King James version of the Bible. It is the regular practice of Sanskritists and Indian prehistorians to use the text of the *RgVeda* as a basis for their description of the culture of northern India around 1700 BC. This is at least 1200 years earlier than any written version of the text could possibly have existed”. Furthermore: “I am fully aware of all the arguments that have been put forward in favor of the belief that the text of the *Rgveda* is substantially the same as an oral text that existed in remote antiquity. I do not myself believe that this is in the least likely to be the case, but that is irrelevant. The crux of my argument is that whatever the date of the *RgVeda* text may be, absolutely no grounds exist for supposing that it refers to events that actually happened in 'real' historical time. Equally, I consider it futile to suppose that the cultural environment that seems to be postulated by the *RgVedan* texts might be identified with any 'real' cultural environment that might be reflected in the excavations of archaeologists working in northern India [Pakistan]”.

Leach also brings forth another interesting point. “If the *RgVeda* is really a residue of a very early oral mythology, it is just as likely to derive from Harappa as from wandering bands of entirely imaginary chariot-riding conquerors. It could also have been introduced to India at some quite indeterminate date by a few enterprising Persian missionaries. And there are many other possibilities. We know that the Indus cities traded northward to Central Asia and westward to Persia, Mesopotamia, and the Arabian Sea. They would have been as polyglot as imperial Rome, contemporary Jerusalem, or fifteenth-century Baghdad. All manner of religious cults would have been found there. Yet modern scholars have repeatedly asserted that the *RgVeda* is only a slightly disguised account of an actual sequence of events, the Aryan invasions” (7).

Malati Shende (14) takes issue with Leach. According to her, “.....the concepts of myth and history, especially the latter have differed according to ages. Leach defines history to mean 'written history, a fixed text that explicitly claims to record what happened in the past in potentially datable sequence. This is a very narrow definition of history. Studies of ancient man reveal his desire to preserve and transmit to later generations his earlier experiences, significant events, names of rulers, countries, the accumulated knowledge which would make their life easier, etc, which really constitutes tradition. The desire to preserve the events is at the root of history writing. There is ample evidence in the ancient cultures indicating this. The oral vehicle was the earliest available to man and only when writing became a reliable enough instrument that man started making use of this. But this period is comparatively short. In the oral tradition versified compositions are commoner because of the ease with which they lent themselves to memorization”.

It is true that the Vedas do not provide any proper historical account, and that is not their concern, but a good deal of incidental information of a historical or semi-historical character emerges. Along the way we get a fairly clear and consistent picture of the life of a pastoral tribe which call themselves ‘arya’. A large number of scholars have taken it for granted that the great majority of religious myths and secular legends contain elements of garbled history; for example, the Trojan War of Homer's *Iliad* and the Biblical Exodus both really happened, even though they did not happen quite as described. Historians of ancient peoples have regularly used such presumptions as part of their evidence. They have pieced together their pictures of the cultural background of prehistory by

combining the evidence provided by archaeology with the evidence contained in religious texts. In this chapter, we decidedly take this position for trying to discern the cultural traits of these people. This is a non-dogmatic approach, with a heavy dose of common sense.

Wendy Doniger relates an interesting story about Mulla Nasir-du-Din (a whimsical literary figure from Central Asia) in her book T*he Hindus: An Alternative History* (15):

“Someone saw Nasrudin searching for something on the ground. "What have you lost, Mulla?" he asked. "My key," said the Mulla. So they both went down on their knees and looked for it. After a time the other man asked: "Where exactly did you drop it?" "In my own house." "Then why are you looking here?" "There is more light here than inside my own house."

Well, by invoking the RgVeda and its affiliated literature in search of the intruding pastoral nomads we may be looking for our key at the wrong place, but elsewhere we do not have much light. The RgVeda may not be a historic account, its authenticity as being authored in the second millennium BC may be suspect, and its truthful transmission may not be a reality, but here we have some light where we can at least make an attempt to look for our key. This we shall do in the following pages, hoping all the way that the answers provided by the Vedas are also applicable to other pastoral nomads. This is, however, a big leap of our faith. This we shall do in the following pages, hoping all the way that the answers provided by the Vedas are also applicable to other pastoral nomads, of course making some necessary allowances from region to region. This is justified by the situation that we do not have any substantial archaeological data on the postHarappan period from which we could learn the ways and means of the cattle-rustling barbarians on the western borderlands, their motives to move eastward, their interaction with the indigenous inhabitants of Baluchistan, Sindh, the Pashtun country, the Pothwar region, and eventually the Punjab, their acculturation, and their role in the formation of a new civilization in the greater Indus Valley and beyond. Thus, whatever its worth in understanding the events of pastoral raids and migrations generally, we cannot altogether ignore the Vedic textural evidence.

Apart from the Vedic people we confront the Indo-Iranians (whose source book is the Avesta), also on the western peripheries of the Indus Valley. Both of them claim to be ‘Aryans‘; they are related to each other in speech, lifways, and religion. In effect, both of these peoples are branches of the same stem, at least linguistically and culturally, if not genetically. Their myths and legends, and their scripture, can also be a valuable source as a corroborating evidence to the RgVeda.

In addition to the RgVeda and the Avesta, scholars have turned to other disciplines, and particularly to comparative anthropology and the study of pre-modern societies that are less remote from our own experience. Thus tribal structures in Polynesia and South America have provided clues about how kin-based societies may become socially stratified and about how notions of land as property may emerge. From the customs of pastoralist peoples in Africa conclusions have been drawn about the importance of cattleofferings and gifts as a prestige-generating activity. And, from native American customs much has been learned about the economic role of sacrifice. All these examples draw on tribal, or lineage societies united by a shared ethnicity.

The Culture Reflected in the RgVeda: A lot has been written on this subject, analyzing each and every word in the RgVeda and deducing from these linguistic hair-splitting the Vedic Culture which often times borders on shear fantasy. Conversely, a lot of useful material has been unnecessarily mythologized and thus taken away from historical analysis. It is not possible here to review this

material in detail, only a brief mention would suffice and that too for only a few limited subjects. Since the Vedic people were part and parcel of the general population of the Indus Valley, intimately interacting with the Iranians and post-Harappan Indus peoples, as well as with any other pastoral tribes which could have been encroaching on the hilly flanks of the Indus plains, we assume that there must be a slow but sure acculturation among all of them. While the Vedic people were acquiring the agricultural technology and sedentary living from the locals, the locals were adopting the social structure of the newcomers. An intimate give-and-take must be happening in the sphere of religion, rituals, and mythology also.

Material Life - Cattle Rearing, Agriculture, and Craft: We can form some idea of the material life of the RgVedic people from stray references to cattle rearing, agriculture, and crafts. To begin with, there are so many references to the cow and the bull in the *RgVeda* that the RgVedic people can be called a predominantly pastoral people. Most of their battles were fought over cows. R. S. Sharma (16) has drawn attention to the many derivations of the word *gau* (cow) in the Rg*Veda*. Words for war with the infix *gau* - such as *gavishti, gaveshana, goshu,* and *gave* - suggest that many battles were in effect cattle raids. The tribal chief was known as *janasya gopa.* Measures of time included *gaudhuli* (dusk) and *samgava* (morning), measures of area/distance included *gavyuti* and *gocharman.* The buffalo was known as *gauri* or *gavala.* The daughter was *duhitri* (she who milks cows) *Gojit* (winner of cows) was a word for a hero. A wealthy person was known as *gomat* (owner of cattle). One of the epithets of the god Indra was *gopati* (lord of cattle). Cow seems to have been the most important form of wealth. Whenever we hear of gifts made to priests, they usually consist of cows and never of land.

As well as advertising their prowess in the rustling of cattle and the driving of two-horse chariots, the Vedic people spattered their verses with metaphors about affectionate cows and fiery steeds. In the RgVeda storm clouds invariably 'gallop' across the heavens; their thunder is as the neigh of a stallion. Rivers rush from the hills like cattle stampeding towards pasture; and when the Beas River is joined by a tributary, 'one the other licks, like the mother-cow her calf''. Cattle were also currency, value being expressed in so many cows. While the Harappans used ox-transport and may have found totemic roles for bulls and many other animals, they do not seem to have had a passion for dairy farming or horse-racing.

Wealth was primarily computed in head of cattle, and as the cattle being the main wealth, cattle raids were a major form of increasing wealth apart from breeding cattle. This is common to many cattle-keeping societies and comparisons have been made between Vedic pastoralists and the Nuer and Dinka of east Africa. The RgVedic people may have occasionally occupied pieces of land for grazing, cultivation, and settlement, but land did not form a well-established type of private property.

There are some scholars, particularly in India, who do not agree with such a description. They ascribe to the Vedic Aryans a deep knowledge of agriculture and a tradition of living in fortified settlements. Pastoralism, it is argued, cannot exist in isolation and requires a relationship with farmers. Thus, while there were some Vedic people mainly pastoralists, there were others who were agriculturists. This is a valid argument but they forget that the Vedic people were not entering an area which was devoid of people. Most of the area of Vedic encroachment was populated by well-settled agriculturists. A mutually benificial relationship must have then arisen between them and the incoming pastoral nomads.

R. N. Nandi (17) has drawn attention to the many references to agricultural activity in the Rg*Veda* and

argues that it was by no means marginal. The verbs *vap* (to sow) and *hrish* (to cultivate) occur, along with references to various agricultural implements. *Phala, langala,* and *sira* are words for the plough, which must have been made of wood. Other implements included the hoe *(hanitra),* sickle *(datra, srini),* and axe *(parashu, hulisha).* The word *kshetra* has a range of meanings, including a cultivated field. Hymns refer to the leveling of fields for cultivation, the desire for fertile fields *(urvara),* and furrows *(sita)* drenched by rain, producing rich harvests. The non-Aryan. Obviously in the beginning, the Vedic Aryans were not engaged in arable farming in any significant way.

Some scholars have used the number of references to pastoral versus agricultural activities in the family books as an index of their relative importance, and have concluded that while cattle rearing was of overwhelming importance, agriculture was either a subsidiary activity or one that was practiced by non-Indo-Aryans. As the Vedic people came in contact with the post-Harappan agriculturalists, they gradually entered into agricultural production, adopting agriculture along with their herding. A comparative study of the early and late Vedic texts suggests a gradual change


A nomadic Qashqai family in Iran moving to new grazing ground

only terms for cereals are *yava* (barley or a generic term for cereal) and *dhanya* (a generic term for cereals). There are references to seed processing, food prepared from cereals, and large jars that were probably used to store grain. Some hymns refer to conflicts among people for the protection of sons, grandsons, cattle, water courses, and fertile fields. Prayers to Indra beseech him to grant or enrich the fields. This god is described as the protector of crops, winner of fertile fields *(urvarajit),* and one who showers such fields on those who perform sacrifices to him. The later parts of the family books invoke *kshetrapati*, who seems to have been a guardian deity of agricultural fields.

Contrary to the above argument, many of the words associated with agriculture in the Vedic texts seem to be non-Aryan. The word for 'plough', for instance, is said to be non-IndoAryan. It is safe, therefore, to assume that they did not have a plough while the Indus people did. It follows therefore that the *arya* probably learned about ploughs and their use from the indigenous successors of the Harappans. Similar conclusions may be drawn about the *arya's* words for 'furrow' and for 'threshing floor'. They too appear to be from pastoralism as the predominant economy to agriculture superseding pastoralism, although the latter never totally declined. The economic pattern varied,

however, from area to area. Thus, the region in the Indus plains were largely agricultural while the areas to the East continued to be substantially pastoral for many centuries. They cultivated the semi-arid lands of this region with flood irrigation. They grew barley, rice and wheat in rotation. As they gradually shifted to settled agriculture they came to value land in a new way, it gained in value.

Looking at the RgVedic evidence in its totality, there is no doubt that the Vedic society, as reflected in the RgVeda, was pastoral in character. It remained so for a long time till the Vedic people learned the art of agriculture and began

to live in settled villages. Agriculture as a mode of subsistence was not, however, entirely unknown to them. During the monsoon months, when pasture became plentiful and transhumance difficult, the Vedic people must have formed their first temporary settlements. No doubt they then also planted their grain crop which, watered by the rains and fertilized by the manure from their cattle pens, would have been harvested during the winter months. The grain was probably barley because that is the only grain mentioned in the RgVeda. The Vedic society, nevertheless, evolved from pastoral to settled agrarian society and this process was rather slow.

Being nomadic pastoralists and occasional farmers, the early Vedic communities had a range of material culture that would be relatively indistinguishable from any other pastoral or farming community in the world. No temples were constructed for ritual purposes or for housing the symbols for the divinity. Permanent images or iconic forms are not usual as is evident from the single passing mention of an image of Indra. Iconic symbols were however used by other communities and the Vedas refer to the Dasas as worshiping the phallus. It could be a reference to some other Indo-Aryan tribe in Iran or Afghanistan, or to the post-Harappan inhabitants of the Indus Valley.

Social Structure: As it happens with all pastoral societies, kinship was the basis of the RgVedic social structure. Man was identified by the clan, the *jana*, to which he belonged, as can be seen in the names of several RgVedic people. In one of the early verses, the combined strength of the warriors of two tribes is given as twenty-one. This indicates that the total number of members in a tribe may not have exceeded 100. The term *jana* occurs at about 275 places in the *RgVeda*, and the term *janapada* or territory is not used even once. Another important term which stands for tribe is *vis*, which is mentioned 170 times in that text. Probably the *vis* was divided into *gramas* or smaller tribal units organized to fight. The word *grama*, although it soon came to mean a village, was originally indicative of a troupe of wagons and their perhaps three or four related families, plus livestock. When the *gramas* clashed with one another, it resulted in *samgrama* or war.

On the lower level, the RgVedic society seems to be organized in extended families; there seems to be no conception of for ‘nuclear family. In the early Vedic phase family was denoted by the term *griha*. It comprised not only mother, father, daughter, sons, servants, etc., but many other people too. In the earliest Vedic language, a single word is used to denote nephew, grandson, cousin, etc. This would imply that differentiation in family relationships leading to the setting up of separate households had not thus far occurred, and the family was a very large joint unit. It seems that several generations of the family lived under the same roof. Since it was a patriarchal society, the birth of a son was repeatedly desired, and people prayed to the gods for brave sons to fight the wars. In the *RgVeda* no desire is expressed for daughters, though the desire for children and cattle is a recurrent theme in the hymns.

The institution of marriage was established, although symbols of primitive practices of incest

survived. We hear of a proposal made by Yami, the twin sister of *Yama*, to establish love relations, but the offer is resisted by Yama. We also have some indications of polyandry. For instance, the two Asvin brothers are represented as living with Surya, the daughter of the sun god, but such instances are infrequent. Possibly they indicate matrilineal traces, and we have a few examples of sons being named after their mother, as in the case of Mamateya. Women could attend assemblies and offer sacrifices along with their husbands. We have an instance of five women who composed hymns; the later texts mention twenty such women. Evidently the hymns were composed orally, and nothing written relates to that period.

Administratively, the RgVedic people functioned through a tribal chief which was called *rajan*. The *rajan* did not exercise unlimited power, having to reckon with the tribal traditions and the consent of the heads of the extended families and tribe's elders. The tribal chief was called the protector of his tribe. He protected its cattle, fought its wars, and offered prayers to the gods on its behalf. Several tribal or kin-based assemblies such as the *sabha*, *samiti*, *vidatha*, *andgana*are are mentioned in the *RgVeda*. They exercised deliberative, military, and religious functions. The *sabha* and the *samiti* mattered a great deal in early Vedic times, so much so that the chiefs showed an eagerness to win their support. Next in rank to the tribal chief was the *senani* or the head of the fighting men. We do not learn of any officer concerned with the collection of taxes. In all probability, the people made voluntary offerings called *bali* to the *rajan*. Presents and the spoils of war were perhaps distributed in some Vedic assemblies, as is generally done in kin-based communities. The *RgVeda* does not mention any officer for administration of justice. The land and cattle were most likely held collectively by the extended families. The idea of territorial monarchy emerged towards the close of the RgVedic period when the king *(rajan)* came to be looked upon as an upholder of the *rashtra*.

The chief did not maintain any standing army, but in times of war he mustered a militia whose military functions were performed by various tribal groups called *vrata*, *gana*, *grama*, *sardha*. By and large, it was a tribal system of government in which the military element was strong. There was no civil system or territorial administration because people were in the throes of perpetual expansion and migrated from one area to another.

Social Differentiation and Caste System: The references to wealthy people and those worthy of attending the assemblies suggest differences in wealth and rank. The *rajan* and the assemblies must have had a say in the redistribution of war booty, and the *rajan* and his immediate kinsmen must have got a larger share. Apart from cattle, other items solicited in prayers and sacrifices include horses, gold, fertile fields, friends, plentiful food, wealth, jewels, chariots, fame, and children. The notion of individual private property ownership as we understand it - associated with the right to buy, sell, gift, bequeath, and mortgage
- did not exist. The clan as a whole enjoyed rights over major resources such as land and herds.

Settled life implied a greater degree of internal social stratification within the tribe or village. Even in Early Vedic times a distinction was made between the ordinary free members *(vish)* of a tribe and the warrior nobility *(kshatriya)*, from among whom the tribal chieftain *(rajan)* was selected. The Brahmins as priests were also mentioned as a distinct social group in these Early Vedic texts. When the semi-nomadic groups settled down they established closer relations with the indigenous people some of whom worked for the RgVedic people as laborers or artisans.

There is an ongoing controversy whether the Vedic people initiated the institution of caste in their

social structure or did they adopt such a system which supposedly preexisted in the postHarappan society. A late hymn of the RgVeda contains the first evidence of the division of people in castes. It deals with the sacrifice of the mythical being Purusha and the creation of the universe and of the four varnas. This hymn (X,90) assumed great normative importance for the ordering of Hindu society and legitimizing the position of the Brahmin priests at the apex of the social hierarchy:

“When gods prepared the sacrifice with Purusha as their offering Its oil was spring, the holy gift was autumn, summer was the wood. When they divided Purusha how many portions did they make? What do they call his mouth, his arms? What do they call his thighs and feet? The Brahman was his mouth, of both arms was the Rajanya [Kshatriya] made, His thighs became the Vaishya, from his feet the Shudra borne.”

Thefour *varnas* were most likely conceived as general categories for various professional groups in the society, just like those in the Mesopotamian society, where the people were divided into three classes. The full-fledged caste system assumed greater importance only at a much later period. At the top of this hierarchy were the first two estates, the Brahmin priests and the warrior nobility, the second level was occupied by free peasants and traders and the third level was that of the slaves, laborers and artisans, probably belonging to the indigenous people.

There are also opinions that the caste system was not the invention of the Vedic Aryans in the Indus Valley; it already existed in the Harappan society and the Vedic people merely adopted this social system and strengthen it further. This as well be true as we find no indication of a caste system among the Avesta Aryans which was a closely related group of people to the RgVedic Aryans. The Avesta only mentions three classes of people which were basically classified on the basis of economic functions. It appears that the tribal chiefs and the priests acquired a larger share of the booty and naturally became wealthy at the cost of their kinsmen, thereby creating social inequalities in the tribe. Gradually the tribal society was divided into three occupational groups, warriors, priests, and the common people on the same pattern as in Iran. They found the caste system of the Harappans as a convenient social structure and used it to reserve their privileges. Still, it was probably not hereditary as it became later on in the classical Hinduism. We hear of a family in which a member says: 'I am a poet, my father is a physician, and my mother is a grinder of grain”. In another hymn the poet asks Indra: '0, Indra, fond of *soma*, would you make me the protector of people, or would you make me a king, would you make me a sage who has drunk *soma,* would you impart to me endless wealth?' This suggests that a man could aspire to different sorts of vocations and goals in life.

The household was the basic unit of labour, and there is no mention of wage labor in the RgVeda. The Rg*Veda* is, however, familiar with slavery. Slavery, is an extreme form of social subordination. A slave, whether male or female, has no rights, power, autonomy, or honor, is considered the property of the master, and is obliged to perform all kinds of services, no matter how menial. The Rg*Veda* refers to enslavement in the course of war or as a result of debt. The fact that in later times, *dasa* and *dasi* are terms used for male and female slaves, suggests that initially, ethnic differences may have been an important basis of enslavement. Slaves, male and female, generally worked in the household, but were not used to any significant extent in productionrelated activities. As pointed out by Gerda Lerner (18), in all cultures, throughout history, there was an important difference in the experience of enslavement for men and women - for women, enslavement generally involved sexual exploitation in addition to exploitation of their labor.

Arts and Crafts : The Vedic Aryans were primarily a pastoral people. They were also a mobile bunch. Such societies are not known to have their own artisan class because they migrated from place to place and could not carry with them the supplies needed by artisans. They also did not produce sufficient surplus in their economies as to be able to sustain a robust non-foodproducing class. They were thus dependent upon the sedentary world for crafts. In the case of the Vedic people, these artisans mostly belonged to the ranks of the indigenous Indus people who have had a strong tradition of crafts during the Harappan period and some of these craft technologies must have lingered on in the postHarappan cultures. As a result of a general political hegemony of the Aryans, however, these artisans were relegated to the status of the Shudras and were despised.

Because of their direct contact with the elements, such as fire and water, artisans, like smiths, potters, weavers, and millers, were also feared of contaminating the Aryan rituals which meant an exclusion of the artisans from sacrificial rites *(amedhya).* The fear of ritual impurity was carried to such extremes by the Vedic people that certain sacrifices such as the Agnihotra had to be conducted with vessels made by Aryans only: 'It [an earthen milk-pot] is made by an Arya, with perpendicular sides for the communion with the gods. In this way it is united with the gods. Demonical *(asurya),* indeed, is the vessel which is made by a potter on the potter's wheel".

The discrimination against these people also led to a discrimination against the trades which they plied. The original lack of such skills among the Vedic Aryans was probably one of the most important reasons for the emergence of the caste system, which was designed to maintain the social and political superiority of the Aryans but still benefiting the products of these artisans. This contempt of artisans and the downgrading of their trade in the social order is still manifest in India and Pakistan where the potters, weavers, leather workers, barbers, for example, are considered the lowest of the low. This is in stark contrast to other nomadic pastoral societies, such as the Mongols, who highly valued the artisans among the settled agriculturist people among their midst.

The Vedic Aryans did not bring the potter's wheel along when they entered the Indus Valley but they found it there. Archaeologists now tend to regard Painted Grey Ware as an indicator of settlements of the Late Vedic people. But this type of ceramic probably originated among the indigenous people and was only spread by the Aryans in the course of their migration towards the East. Their expertise in metal working was marginal. Although they needed the carpenters for constructing their carts and chariots, they gave little importance to these artisans. The same applies to the weavers and, surprisingly, to the millers.

Religion: Since the Vedic people were originally pastoralists and with their need for always seeking new pastures they must have been semi-nomadic, we may infer that, like pastoralists the world over, they lived an itinerant outdoor life. Much exposed to the elements, they may have been inclined to discover divine powers in the forces of nature and to assume a ready communion with these powers. The names of their gods predate their arrival in the Indus Valley, many (e.g. Indra, Agni, Varuna) being almost synonymous with their counterparts in Persian, Greek and Latin mythology; but their attributes and achievements relate to the Indus environment.

TheRig *Veda* reflects a naturalistic polytheism - a belief in many gods who personified natural phenomena. The connection is clear in some cases from the very name of the deity, as in the case of Agni (fire), Surya (the sun), and Ushas (dawn). However, the mythology of some deities stretched far beyond their association with a particular natural phenomenon. For instance, although Indra seems to

have been originally associated with the thunderstorm, he rapidly outgrew this connection to develop a much more complex personality. The gods were conceived of as anthropomorphic, i.e., as having a physical form similar to that of humans. The level of detail varies, but mention is often made of their head, face, mouth, hair, hands, feet, clothes, and weapons. There is an overlap in some of their physical features, epithets, and exploits.

The Vedic hymns divide the universe into the sky *(dyu),* earth *(prithvi),* and the middle realm *(antarihsha).* The word *deva* (literally, 'shining', 'luminous') is frequently used for the gods. The gods are sometimes also called *asuras.* Initially, this word referred to a powerful being; in later times it came to be used exclusively in a negative sense for demons. The Rg*Veda* asserts that there are 33 gods associated with the sky, earth, and the intermediate region, but the actual number of deities mentioned in the text is more. Some gods are mentioned more often than others, but there is no fixed order of importance nor a fixed pantheon. Whichever deity is invoked in a particular hymn is spoken of as a supreme god. Apart from the gods, the Rg*Veda* mentions *gandharvas* (celestial beings), *apsaras* (celestial nymphs, wives of the *gandharvas,* and malevolent beings such as *rakshasas* (demons), *yatudhanas* (sorcerers), and *pishachas* (spirits of the dead). Different ideas of how the world was created are mentioned in passing - e.g., as a result of a great cosmic battle, the separation of heaven and earth, or the actions of the gods.

The most important divinity in the RgVeda is Indra, who is called *Purandara* or destroyer of dwellings. Indra played the role of a warlord, leading the Vedic Aryans to victory against the demons, and has 250 hymns devoted to him. The hymns vividly describe his appearance and personality. He is vigorous and strong, a great warrior. Indra resembles a human war leader of a violent, patriarchal, bronze-age barbarian group which the Vedic Aryans patently were. In fact, it still remains an open question whether Indra is not a deified ancestral war leader who had actually led the Aryans in the field, or perhaps a succession of such active human chiefs. Many a time Indra is invited to drink the powerful intoxicant *soma* and to lead his Aryan followers to victory. Indra smashed the enemies of the Aryans, looted the 'treasure-houses of the godless'.

One feat for which Indra is praised again and again is the 'freeing of the rivers'. During the nineteenth century, when nature-myths were made to account for everything including the Homeric destruction of Troy, this was interpreted as bringing down the rain. Indra was the rain god who released the waters pent up in the clouds. These days, however, such esoteric interpretations are not sought. The demon Vritra 'lay like a great snake across the hill-slope'. When this demon was smashed by Indra, 'the stones rolled away like wagon wheels', the waters 'flowed over the demon's inert body'. This can hardly mean anything except the destruction of a dam, for all the figures of speech. The word *vriira* means 'obstacle' or 'barrier', but not 'demon' as such. Indra was called *vritrahan,* Vritra-kiIler, for this spectacular feat.

The myth and metaphors give a clear account of the methods whereby the Indus agriculture was ultimately ruined. At the same time, Indra confined the (unidentified) river Vibili, which had been flooding over its banks, to its proper channel. Flood-irrigation by special dams, sometimes temporary, had been the Indus practice, as noted in Volume III of this series. This would have made the land too swampy for Aryan cattle herds, while the blocked rivers made grazing over long reaches impossible. This tactic for destroying the subsistence base of the post-Harappan people in the hilly and plateau areas was apparently common and it most likely helped the Vedic people to dislodge the Indus people from their settlements without fighting.

Next in importance was Agni, literally fire, who dwelt in the domestic hearth and acted as intermediary between gods and men; two hundred hymns of the RgVeda are devoted to him. The oblations offered to Agni were supposed to be carried in the form of smoke to the sky, and thus transmitted to the gods. Fire played a significant part in the life of all primitive people because of its use in burning forests, cooking, and the like. The cult of fire occupied a central place not only in the Indus Valley but also in Iran. There was, however, a difference. While fire in Avesta was an embodiment of purity, for the Vedic people it was regarded as a purifying agent.

The fire cult is considered to be a special trait of both the Vedic and the Avesta people. The fire altar or *vedi* is mentioned in the *Rg Veda*, and fire worship is very important in the *Avesta*. Some scholars consider the fire cult to be Harappan, but the veracity of the 'fire altars' found in Lothal in Gujarat and Kalibangan in Rajasthan is doubted by the excavators themselves. The fire altars discovered in the Harappan context match neither the textual prescriptions nor the age-old traditional practices. However, as fire is so indispensable to human existence, it may have been worshipped in many regions including the Indus Valley, but whether it took the form of the Vedic altar is extremely doubtful.

Varuna was third in importance to both Indra and Agni. Varuna was the guardian of the cosmic order, he created the world and ruled it by the standard of *rta* -- the proper course of things. *Rta* provided a structure for the other celestial powers. It appears that Varuna and Indra were two sides of a divine rule -- the active side (Indra) and the passive side (Varuna). They represented active intervention to overcome obstacles and bestow bounty on men, and the eternal universal order. Varuna was to recede in importance, as the Aryans fought to secure a foothold in the Indus Valley. The warrior Indra became the greatest of the devas. Interestingly, we find the same dichotomy in the Avesta. Here also are two opposing forces: Spenta Mainyu (progressive mentality) and Angra Maine (destructive mentality) under Ahura Mazda and Ahriman, respectively. There is an eternal conflict between the forces of evil and those of goodness but the forces of good will eventually win. In Vedic thought, Varuna represents order (the *rta*) and Indra is a brute power. Here Varuna seems to fade away and Indra seems to be winning.

There were other gods also: Surya (the sun), Savitri (the deity to whom the famous *gayatri mantra* is addressed), and Pushan (guardian of roads, herdsmen and straying cattle) were the principal solar deities. Vishnu, a minor god, also had solar characteristics and was believed to have covered the earth in three steps. Some of the gods may be traced back to the period when the Aryans had not branched off from the IndoEuropean community. Amongst them Dyaus (the heavens personified) was the father-god, but lost his position of prominence in the Vedic pantheon. Few goddesses find mention in the *RgVeda*. Prominent among them are Ila, Aditi and Ushas. The gods were generally not married. Their wives are called *gnas* collectively, which is reminiscent of group marriage prevalent among the Aryans at some stage.

Deities were worshipped through individual prayers and sacrificial rituals *(yajnas)*. Their favor could be won through sacrifice and a number of domestic and public sacrifices are mentioned in the *RgVeda*. A passage from this text tells us that creation emanated from the first cosmic sacrifice, Prajapati (later known as Brahma) who is thought of as a primeval man. He is said to have been sacrificed to himself by the gods who were apparently his children; and it was from the body of the divine victim that the universe was created. This underscores the necessity of sacrifice for the maintenance of the world order, but the real development of the sacrificial cult took place in the

second phase of Aryan expansion in India.

Animal sacrifice was an important Aryan ritual. However, given its almost universal practice among pastoral tribal people, it is difficult to make much of it. The earliest stock raisers did not raise cattle for the sake of milk and dairy products. A segment of the Gond tribe in India still believes that milk is really meant for the calf. Therefore, the early pastoralists were great meat eaters. The ritual of animal sacrifice may have been evolved because of the need for non-vegetarian food. Graves in Ukraine and south Russia dating to the fourth and third millennia BC provide numerous examples of animal sacrifice in funeral ceremonies. Animal sacrifice is of tremendous cultural and religious importance even today throughout Pakistan, Afghanistan, Iran, and Central Asia, spreading even to the Arab world. It appears that this ritual was common in all argo-pastoral societies, as the fable of Prophet Ismail sacrificing his son (though replaced by a lamb through a miracle) described in the Bible and the Quran shows.

The RgVedic sacrifice marked a movement from the everyday, mundane sphere of activity and experience to the sacred sphere. The gods are presented as powerful, mostly benevolent beings, who could be made to intervene in the world of men via the performance of sacrifices. Sacrifices took place in the house of the *yajman* (the person for whom the sacrifice was performed and who bore its expenses) or on a specially prepared plot of land nearby. They consisted mostly of oblations of milk, ghee, and grain poured into the fire, accompanied by the recitation of appropriate sacrificial formulae. Some *yajnas* involved the sacrifice of animals. The gods were supposed to partake of the offerings as they were consumed by the fire. A part of the offerings were eaten by the officiating priests. The goals of RgVedic sacrifices included wealth, good health, sons, and a long life for the *yajamana*.

Some sacrifices were simple, domestic affairs, performed by the householder. Others required the participation of ritual specialists. Seven types of sacrificial priests are mentioned in the RgVeda - with their particular tasks clearly laid down. Priests were given a fee *(dahshina)* in return for the important duties they performed. The Rg*Veda* does not mention temples or the worship of images of deities, which were an important aspect of popular Hinduism of later times.

Sacrifices were accompanied by formulae that had to be carefully enunciated by the sacrificer. These formulae and sacrifices were invented, adopted, and elaborated by the priests called the brahmans who claimed a monopoly of priestly knowledge and expertise. They invented numerous rituals, some of which were perhaps adopted from the non-Aryans. The reason for the invention and elaboration of the rituals is not clear, but mercenary motives cannot be ruled out. We hear that as many as 240,000 cows were given as *dakshina* or gift to the officiating priest in the *rajasuya* sacrifice. Several Vedic scholars of today’s India speak of beef-eating brahmans in Vedic times, and recommend animal food for the Hindus in the modern context.

Physical objects used in Vedic rituals were usually made specifically for each ritual and burned or ritually broken after the completion of the ceremony. Wooden ladles and spoons were used to pour out butter and sprinkle water but such objects would not be preserved in the archaeological record. Many different shapes of pottery vessels and dishes were made by hand forming, but it is not clear if they were distinct from domestic pottery or not and therefore it is difficult to distinguish ritual vessels from everyday domestic vessels. The only clear indicator would be pottery with evidence for intentional breakage as is found on the slopes around modern temples or near cremation grounds.

The cult of *soma* is another characteristic trait of the Vedic people. They shared this cult with the Avestan people, who called it *homa*. The identification of the Soma plant has been long debated, but now a plant called ephedra, small twigs of which have been found in vessels used for drinking rituals on the premises of the temple of Togolok-21 in Margiana in south-eastern Turkmenistan, is considered to be *soma*. Although this identification has been accepted by many scholars, the search for conclusive evidence is continuing. Drinking of *soma*, a drink of the gods, was an essential element in all public sacrifices.

Disposal of the dead is often related to the religious beliefs of the time. Contrary to the practice of the Harappans as well as that of the other pastoral nomads arriving in from the West in the Pashtun country, cremation is the most commonly described funeral ritual in the Vedas, but texts also refer to the dead who were "not burnt", were buried in the earth, exposed or thrown away (19). In later texts dating to around 800 BC, there are detailed instructions on how to collect bones that have been exposed for a specified length of time and place them in a pot with a lid that is then buried in a pit. In one ritual the bones of the dead ancestor were taken into the forest, arranged in their anatomical position to create the human form, and covered with sacred grass and a water plant.

TheRgVeda reflects the beliefs and practices of a religious aristocracy and its patrons, and there are several striking similarities with ideas reflected in the Iranian *Avesta*. The *Rig Veda also* indicates a diversity of religious practice in the Indus Valley. For instance, there is mention of people who did not worship Indra, and the Dasas and Dasyus are described as not honoring the Vedic gods and not performing sacrifices. A group of non-Vedic people has been described as worshiping phallus. These religious practices could as well be the remnants of the Harappan Civilization.

In the later Vedic period, the upper GangaJamuna Doab emerged as the cradle of the Aryan culture under Brahmanical influence. All the later Vedic literature seems to have been compiled in this area. The cult of sacrifice became central to this culture, the rituals became much more complex and elaborate. The two outstanding RgVedic gods, Indra and Agni, lost their former importance. On the other hand, Prajapati, the creator, came to occupy the supreme position in the later Vedic pantheon. Some of the other minor gods of the RgVedic period also came to the forefront. Rudra, the god of animals, became important in later Vedic times, and Vishnu came to be conceived of as the preserver and protector of the people who now led a settled life rather than a semi-nomadic one. In addition, some objects began to be worshipped as symbols of divinity and signs of idolatry come in picture. As society became divided into social classes, such as *brahmins*, *rajanyas*, vaishyas, and *shudras*, some social orders began to have their own deities. Pushan, who was supposed to tend to cattle, came to be regarded as the god of the shudras, although in the age of the *RgVeda* cattle rearing was the primary Aryan occupation.

People in later Vedic period worshipped gods for the same material reasons as they did in earlier times. However, the mode of worship underwent substantial change. Prayers continued to be recited, but they ceased to be the dominant mode of placating the gods. Sacrifices became far more important, and they assumed both a public and domestic character. Public sacrifices involved the king and the entire community, which still in many cases coincided with the tribe. Private sacrifices were performed by individuals in their houses because during this period the Vedic people maintained regular households. Individuals offered oblations to Agni, and each of these took the form of a ritual or a sacrifice. Sacrifices involved the killing of animals on a large scale and, especially, the destruction of cattle wealth. The guest was known as *goghna* or one who was fed on cattle.

Towards the end of the Vedic period a strong reaction arose against priestly domination, against cults and rituals, when around 600 BC, the Upanishads were being compiled. These philosophical texts criticized the rituals and laid stress on the value of belief and knowledge. They emphasized that knowledge of the self or *atman* should be acquired and the relation of *atman* with *Brahma* should be properly understood. Brahma emerged as the supreme entity, comparable to the powerful kings of the period. Some of the kshatriya princes in Panchala and Videha cultivated this form of thought and created the atmosphere for the reform of the priest-dominated religion. Their teachings promoted the cause of stability and integration. Emphasis on the changelessness, indestructibility, and immortality of the *atman* or soul served the cause of stability that was necessary to sustain the rising state power headed by the kshatriya raja. Stress on the relation of *atman* with Brahma fostered allegiance to a superior authority.

During the entire Vedic period no temples were constructed for ritual purposes or for housing the symbols of the divinity. Permanent images or iconic forms are not usual as is evident from the single passing mention of an image of Indra. Iconic symbols were however used by other communities and the Vedas refer to the Dasas as worshipping the phallus. The descriptions of elaborate Vedic rituals and the construction of fired brick altars are from the Vedic corpus dating to the first millennium BC and therefore later than the RgVeda. Although it is possible that some earlier brick altars were constructed, so far no archaeological remains of structures associated with these rituals have been discovered or dated to this early period, though later altars have been discovered.

The Horse, Spoked Wheel, and Chariot: The horse has somehow become a central subject in all discussions pertaining to the Vedic people and their culture. It has two dimensions. First, it has often been pointed out that the complete absence of the horse among the animals so prominently featured on the Indus seals is good evidence for the non-Aryan character of the Indus Civilization. Parpola quotes from a fairly up to date and authoritative report by Richard Meadow that there is as yet no convincing evidence for horse remains from archaeological sites in South Asia before the end of the second millennium BC. Many claims have been made, but few have been documented for independent verification. Second, the wild relatives of the horse are not native to the Indus Valley or anywhere in the subcontinent, and the domesticated animal was brought into the region from the West.

Parpola points out why the 'horse argument' is so central to the issue. The Proto-Aryan words for the horse and the various technical terms associated with the war chariot can all be solidly reconstructed to Proto-Indo-European. The evidence strongly suggests that the introduction of the horse to the Indus Valley was a solid proof for the intrusion of some westerly people. Wild horses were common in all the more northerly parts of Eurasia from remote antiquity. They were probably hunted for meat long before they were domesticated for riding. Horse bones, carbon-dated to about 4400 BC, have been identified in a 'Kurgan culture' site in the Lower Dnieper region, but there is no evidence that they were from domesticated horses or that, if they were, the 'Kurgan' people were the first to domesticate horses. Dates are uncertain, but all the ancient urban civilizations, except the Hardpans, made extensive and quite early use of domesticated horses. The domesticated horse is also mentioned in the Avesta.

The horse is an indispensable trait of the Indo-Iranian and Indo-Aryan people. In fact, it plays a crucial role in the life of the early IndoEuropeans from whom the Indo-Iranian and IndoAryan ostensibly derived. The term *asva* (horse) in the *RgVeda* is cognate with *asap* in Avestan. In Vedic and Avestan, many personal names are horse-centred. For the early Vedic period we have over fifty horse

names and thirty chariot names (20). Similarly, the *aspa* or horse forms part of the name of several Iranian chiefs in the *Avesta*. Some Iranian tribes mentioned by Herodotus are also named after the horse. In its various forms, the term *asva* occurs 215 times in the *RgVeda;* no other animal is mentioned so frequently.

The *RgVeda* devotes two complete hymns in praise of the horse. Almost all the Vedic gods are associated with it, and this in particular applies to Indra and his companions, the Maruts. Though the Vedic people frequently pray for *praja* (children) and *pasu* (cattle), they also specifically ask for horses, sometimes as many as a thousand. In the *Avesta*, cattle wealth seems to be significant, but the horse has its own importance. Both the horse and chariot repeatedly occur in prayers made to the Avestan Mithra who is the same as god Mitra in the *RgVeda*. The adjective 'swift-horsed' is applied in the *Avesta* to several divinities. The text refers to the prayer to the god that the king be granted swift horses and strong sons. The horse and the horse-drawn chariot are equally important in Homer. The Vedic, Iranian, and Greek texts, thus leave no doubt that the earliest speakers of the Indo-European languages were well acquainted with the horse.

Only a few horse remains of the third millennium BC are ascribed to the Indian subcontinent, and these are of a doubtful nature. Richard Meadow, who has thoroughly studied the remains, finds no clear osteological evidence of the presence of the horse in the Indian subcontinent until 2000 BC. In his view, the Pirak complex in the Kachi plains shows the earliest true horse in South Asia around 1700 BC. The remains of horse and horse furnishings dating to 1400 BC later appear in the burials of the Gandhara grave culture in the Swat valley situated in the the Pashtun country. The existence of the horse in this region may have helped its spread in north India. Horse bones have been found in the overlapping layers of the Painted Grey Ware and the Late Harappan culture at Bhagwanpura in Haryana attributed to 1000 BC. The Surkotada horse from the Kutch area may have been contemporaneous with the Pirak horse. The horse also appears in the later or the post-urban Harappan phase at Mohenjo-daro, Harappa, Lothal, and Ropar. Also, although numerous bones have been found in the excavation of the Harappan site at Dholavira in Kutch, there is no indication of any bones of the horse. Reviewing all this evidence, the existence of the horse in the post-Harappan phase at various places in Pakistan is consistent with its arrival in Pirak and the Swat valley from the eighteenth century BC onwards,

The Vedic people widely used horse-drawn chariots, especially in battles. These are well known also to the Avesta. The chariot race prescribed in the *vajapeya* sacrifice of the later Vedic texts was also a Greek practice, and is fully described by Homer. It is held that the wheeled chariot originated in western Asia in the fourth millennium BC and reached the steppes of south Russia at about the same time. Sufficient evidence of the existence of the chariot from 3000 BC onwards appears in the excavations in south Russia. The existence of horse-drawn chariots is also indicated by the names of the Mitanni rulers around 1400 BC and later. We also hear of the Indo-Iranian as 'horse-driver'. Dasaratha, the name of a Mitanni king, means a person possessing ten chariots.

Spoked wheels appear in Hissar in Iran and in the north Caucasus around 2300 BC. A sixspoked wheeled chariot depicted on a cylindrical seal is attributed to Hissar around 1800 BC. It is said that in the nineteenth century BC, the Hittites used light-wheeled chariots to conquer Anatolia. War chariots with spoked wheels appear in the Sintashta region in the south Ural area adjoining western Kazakhistan. By 1500 BC, spoked wheels are in existence at several places in eastern Europe and western Asia. Spoked wheel is neither identified at Harappa nor Mohenjo-daro where all the toy carts

found so far show solid wheels. Banawali in Hissar district in Haryana is associated with the use of spoked wheels in the post-Harappan period.

Writing: For 'writing', 'record', 'scribe', or 'letter' the *arya* of the Vedas had no words at all, not even borrowed ones. It is therefore almost certain that they brought no knowledge of writing into the Indus Valley with them and that, by the time they arrived, the literacy skills of the Indus people had been forgotten. When and how later scripts emerged is unknown. The first mention of writing occurs in oral compositions dating from after 500 BC. Inscriptions do not appear until two hundred years later, but they use two comparatively sophisticated scripts which suggest several centuries of prior familiarity. One of these scripts may owe something to the ideograms of the Harappan seals; the other looks to have been derived from the Aramaic script of western Asia.

Use of Iron: There are hardly any references to metallurgical activities in the Rg*Veda*, and very few of these occur in the family books. The word *ayas* occurs in several contexts. But it is not clear precisely which metal these objects were made of. Some scholars have interpreted the references to *ayas*, metal objects, and metallurgical activity in the Rg*Veda* as indicative of iron artifacts and iron working. However, there is no definite evidence that this was so. There is in fact no clear or conclusive reference to iron in the family books. *Ayas* could have meant copper, copper-bronze, or may have been a generic term for metals. Around 800 iron began to be used more frequently, allowing the intensification of plough agriculture and increasing the surplus from cultivation.

The story of iron is similar to that of the horse. The domesticated horse is first noticed near the Black Sea in the sixth millennium BC, but it became common only from the second millennium BC onwards. Similarly iron underwent a long gestation. Lumps of stone or iron move in outer space. When they encounter the atmosphere, they hit the ground and plummet to earth as meteorites. Such a piece was found in ancient Egypt in *ca.* 3000 BC. lt was identified as iron, and was called black copper from heaven in the Egyptian language. Many copper minerals contain iron ores. It took many years to separate iron ores from these minerals and form the pure iron metal. As a pure metal, iron was first made in Mesopotamia in 5000 BC, and later in Anatolia in the third millennium BC. However, up to 1200 BC, iron was valued as a precious metal in western Asia and used as presents by rulers.
In the Indian subcontinent, iron is sometimes attributed to Lothal and to some sites in Afghanistan in Harappan times. Neither of these however represent pure iron metal nor working in iron. They are really copper objects containing iron ores. These ores have not been separated from copper and given a distinct and separate identity as a pure iron metal. Iron metal has been reported at some sites in Rajasthan and also in Karnataka towards the end of Chalcolithic period. Iron can thus be placed in the region in the second half of the second millennium BC.

Around 1000 BC it was used in the Gandhara region in the Pashtun country of Pakistan. Iron implements buried with dead bodies have been discovered in substantial numbers. They have also been found in Baluchistan. At about the same time, iron was used in eastern Punjab and Rajasthan. Excavations show that iron weapons, such as arrowheads and spearheads, came to be commonly used in western UP (India) from about *800* BC onwards. With iron weapons the Vedic people may have defeated the few adversaries that they may have faced in the upper portion of the doab. The iron axe may have been used to clear the forests in the upper Gangetic basin although, because rainfall ranged between 35 cm and 65 cm, these forests may not have been very dense. Towards the end of the Vedic period knowledge of iron spread in eastern UP and Videha. The earliest iron implements discovered in this area relate to the seventh century BC, and the metal itself is called *shyama* or *krishna ayas*

(black metal) in the later Vedic texts. All in all, iron does not seem to be a significant factor in the expansion of the Aryans and the Aryanized Indus people in India.

Archaeological Evidence: Many attempts have been made to identify the Indo-Aryans, or other intrusive peoples, in archaeology. As mentioned in the last chapter, some archaeologists identified the Cemetery-H culture with the IndoAryans. Others have identified intrusive elements in the post-urban phase at Chanhu-daro and Jhukar. Some have sought to identify the Indo-Aryans with changes in funerary practices, fire worship, and the use of the horse at Gandhara Grave culture sites. The copper hoards have been variously connected with the early Indo-Aryans, Harappan refugees, and the pre-Aryan inhabitants of the doab. A connection between Painted Grey Ware (PGW) culture and the later Vedic Aryans has been suggested on the basis of a chronological and geographical overlap and some similarity in their cultural elements. The chalcolithic cultures of Rajasthan, central India, and the Deccan have been variously identified with pre-Aryans, Aryans, or non-Vedic immigrants.

Out of all these correlations, many scholars accept the later Vedic culture with PGW culture. However, the central problem that has not been properly worked out is: On what basis are connections between material culture - especially pottery - and historically known groups of people to be drawn? It is clear that ceramic cultures cannot be mechanically identified with specific linguistic groups, ethnic groups, lineages, or political units. The spread of similar craft products may have to do with the spread of craft traditions or trade rather than the migration of people. Historians and archaeologists need greater methodological clarity about how to interpret continuity and change in ceramic traditions before making historical inferences on their basis.

Kenneth Kennedy's analysis of the skeletal record reveals that the first phase of discontinuities in physical types in the north-west occurs between *ca.* 6000 and 4500 BC, and the second one after 800 BC. There is no evidence of demographic disruption in Pakistan during and immediately after the decline of the Harappan Civilization. This evidence is often quoted as a negation of any invasion or mass migration into the Indus Valley. This logic assumes that the Aryans were physically different from the local post-Harappan population and can be differentiated through cranial measurements. This is, however, a faulty assumption to begin with. There must be a gradation of physical features as it is now.

Our best bet is the analyses of Late- and post-Harappan archaeological cultures without looking for the ‘Aryan’ bones. As discussed in the last chapter, the major archaeological cultures which succeeded the Harappan in the greater Indus Valley were: the Jhukar Cultural Complex of the lower Indus Valley; the Cemetery H culture of the northern Indus plains; the Gandhara Grave Culture of the Swat and Gomal Vallies; the Ochre Color Pottery (OCP) and the Painted Grey Ware (PGW) in the Hakra plains and adjoining areas of Rajasthan and later in the Divide. These postHarappan cultures were in some instances fairly widely distributed over the greater Indus Valley and in others, more narrowly so.

The picture that emerges is that during the later phase of the Harappan culture the appearance of some exotic tools and pottery clearly indicated the slow percolation of new peoples into the Indus basin all along its western borders, namely, eastern Baluchistan, western Sindh, the Pashtun country, the Swat and Chitral regions, and the Pothwar Plateau. These intrusions were by no means in the shape of an invasion or a mass migration, overpowering the indigenous post-Harappan inhabitants of the region and imposing on them their language and culture. Instead, this encroachment was in the form a trickle, small scale, opportunistic ventures, sometimes in stealth and sometimes accompanied with

strife and violence. These encroachments were not always hostile; sometimes they could have been accommodative.

The evidence for these people first came from western Sindh and eastern Baluchistan where Mackay (21) noticed their presence in his excavations at post-Harappan Chanhu-daro, Jhukar and Jhangar periods. The later French excavation at Pirak at the mouth of the Bolan pass in the Kachi plain of Baluchistan filled the gap between 1800 B.C. and the historical period in this region. Evidence connecting Baluchistan and western Sindh with Greater Iran has been accumulating for a long time but it is only now that it has become possible to place it in perspective. The use of horse and camel at Pirak and related sites can be linked to Afghanistan and Central Asia. Domestic Bactrian camels were kept in earlier times in Turkmenia and at Shahr-i Sokhta. Horses had been domesticated in the Eurasian steppe around 4000 BC but did not reach the Indo-Iranian region until the second millennium; the Pirak specimens are the earliest securely dated and indubitable evidence of these domestic animals in the subcontinent.

Mehrgarh South Cemetery and the site of Sibri define the Mehrgarh VIII period which differs markedly from the earlier period, the period VII. Many flaked stone as well as bone tools, several stones for grinding, and several terracotta figurines, including flat, violin-shaped female figurines of the sort seen also at Hissar, Altyn, and some BMAC sites of northern Afghanistan have been found here. Other parallels with the world to the West were a small stone column, bronze and stone compartmented seals, and bronze pins. Most important, however, is the fact reported by Santoni (22) that the quality and number of bronze artifacts reported at Sibri and at the Mehrgarh South Cemetery is higher than that found at earlier sites. These objects, including a shaft-hole axe-adze, find ready parallels in objects from Greater Iran (6).

The pottery shapes are also similar to the ones in use in Central Asia. For example, at the site of Nausharo near Mehrgarh and Sibri, in the final phase of period II, mature Harappan objects were accompanied by distinctive plain pottery similar to the one seen, for example, at Sapallitepe in the northern Amu Plain in Central Asia. The most interesting finds from Sibri are the seals which are of two types. The principal kind is the compartmented seal made of bronze or stone. Three of these are triangle-shaped. The second type is represented by a single piece. It is a black steatite cylinder with a pierced boss on top and an engraved scorpion at the base. The face of the cylinder depicts a zebu facing what is probably a lion. This cylindrical seal was found in association with two black steatite beads, and together they may have formed part of a necklace. The cylindrical seal is very similar to the seals found in the Murghab Delta (6), again in Central Asia.

The Shahi-tump cemetery was dug into the ruins of an earlier settlement. The burials consisted of bodies placed on one side with the legs flexed. Apart from pottery, the associated grave goods included swastikas, a shaft-hole axe, a copper spearhead, compartmented seals with strap handles, besides beads of agate, ruby, lapis lazuli, and others. The shaft-hole axe is comparable to those from Maikop and Tsarskaya in south Russia, while the seals have their counterparts in Hissar II Band Anau.

In 1946, Sir Mortimer Wheeler produced stratigraphic evidence to separate chronologically the culture represented by Cemetery-H at Harappa, where Mughal later traced its extent in the Bahawalpur region along the Hakra river. It is clear from the pottery as well as from the decorations on it that the Cemetery H culture simultaneously represents a continuum with the mature Harappan phase and the arrival of new elements. Sir Mortimer Wheeler (13), one of the excavators at Harappa, clearly

associates the Cemetery H culture with some intrusive people and these were most likely the destroyers of the Harappan Civilization. Heine-Geldern (23), who based his studies mainly on the isolated finds of weapons and other copper-bronze objects, has endeavored to demonstrate the foreigness of these objects in the Indus Valley. He attributes these objects to a migration which passed through the region southeast of the Caspian Sea where its traces can be recognized at Tepe Hissar near Damghan and at Turing Tepe near Asterabad. Incidentally, it came from the very area where historians place the bulk of the Indo-Aryan people at the time - 15th-24th centuries BC - when some of its more adventurous groups swarming out towards the south and southwest had acquired mastery over the kingdom of Mitani and parts of Syria.

In 1971, in Gomal valley, a new type of burial was discovered, a type also found at Taxila in the Iron Age graves of Sarai Kala, and thus added a new variant on either side of the Indus river. This new material has been termed the 'Gandhara Grave Culture' by A. H. Dani and is attributed to the Dardic people by G. Tucci. This material has been found not only in graves but also in settlement sites. Typologically the graves have been classified into three main groups, and on the basis of stratigraphy they have been referred to three periods, ranging respectively from 1700 to 1400 B.C., from 1400 to 1000 B.C., and from 1000 to 500 B.C. To these main periods three earlier phases have been added by Stacul on the basis of his excavations in the Ghaligai cave (24). These archaeological discoveries have already been discussed in the last chapter and need not be repeated here. The Gandhara grave people have been conjecturally associated by certain Indian archeologists with early Indo-Aryan speakers, and the Indo-Aryan migration into South Asia, who cross-bred with indigenous elements of the remnants of the Indus Valley Civilization. While there is enough circumstantial evidence to relate the Swat culture with the RgVedic people, it is intriguing that no remnants of this culture have been found on the Punjab rivers which are also named in the RgVeda.

Different types of weapons recorded over a wide area and destruction of settlements on the western peripheries of the Indus Valley have been thought of as signs of the arrival of new peoples in the region (25).

To begin with, some signs of insecurity and violence are evident in the last phase of Mohenjo-daro. Hoards of jewelry were buried at places, and skulls were huddled together at one place. New types of axes, daggers, and knives with midribs are found. They seem to betray the intrusion of some ‘foreign’ elements. Baluchistan seems to have experienced considerable disruption in the early to middle second millennium. A number of settlements were destroyed by fire, including Rana Ghundai and Dabarkot, the latter apparently on four occasions. Gumla was destroyed and abandoned, and later burials were dug into its ruins. Much of the material of this period recovered from the region is in the form of stray objects or burials with material that is linked stylistically with the BMAC and regions to its north.

In the Zhob valley, at the site of Nal, the settlement was burnt to such an extent that the mound came to be known by that event Sohr Damb, the Red Mound, as the fire had burnt the soil red. At Dabar Kot, to the south of Rana Ghundai, the upper six feet of the tell had four layers of ash signifying the destruction of four subsequent settlements. On the surface were found the fragments of the Rana Ghundai type pottery. At Shahi-tump a cemetery had been made in the ruins of an abandoned settlement of the Kulli culture which yielded a clay toy cart, characteristic of Harappan culture. This may mean that the Shahi-tump cemetery is later than Kulli culture and some phase of Harappa. The burial rites were inhumation with grave goods, consisting of pots mostly of western type and also

copper or bronze tools and ornaments, stone beads and alabaster cups, again of western origins. The nearest parallels to the pottery are found in a cemetery of Khurab near Bampur (Iran) where the vessels resembled pots from Mehi, the latest phase or after its abandonment. Khurab and other cemeteries near Bampur may belong to the centuries around or just after 2000 B.C. In general, the potteries at Shahi-tump and similar wares "are descended from the pottery of the buff-ware group best represented in Susa I and other sites in Fars and at greater remove from Samarra" (11). The copper spear and the shaft hole axe found in one of the graves seem to have divergent origins. The former are similar to the Harappan type and the latter are probably derived from the Sumerian and Akkadian prototype. The five copper stamp seals found at Shahi-tump are said to be "even more explicit in their western relationships", the only other example from Baluchistan being from the Sohr Damb at Nal from the final phase. They are distinct from the Harappan seals. Seals of Shahi-tump style, circular and compartmental pattern, bear resemblance to the types found in Hissar IIb and IIIb, in Anau **III,** and at Susa, which may suggest a date "about 2000 BC. or a little later". Piggott has also noted the increased contact between Mohenjo-daro in the final phase and the Kulli culture and the appearance of the pottery and stone vessels of south Baluchistan types in the later levels of Harappan occupation at Mohenjo-daro.

Further,theHarappansettlementsof Chanhu-daro, Jhukar and Lohumjo-daro are said to bear the traces of the occupation by those who destroyed these Harappan towns. Abundant and characteristic pottery, stamp-seals, amulets, beads, metal tools and pins, bone awls and probably two pottery bead-rests, one painted and another unpainted, have been found (21) on these sites.

Thecoppershaft-holeaxefoundin Chanhu-daro II has parallels at Shahi-tump cemetery and the series of pins are without parallel anywhere in the Harappan culture. But these are known at Sumer in Early dynastic times and also in Hissar IIIb. Bone awls are also said to be yet another novelty, which Mackay thinks, might have been employed for mat-weaving.This assortment of things is attributed to a new people who arrived from the West. They were either the incursion of some Baluch tribes from the hills or some early raiders from beyond Bakuchistan.

Besides these, a copper axe-adze with a shaft tube found in a late stratum of Mohenjodaro, a type foreign to the Harappan culture, seems to be an import from the West where it survived as late as 9th century B.C. A group of implements are described by Piggott as swords with mid-rib, a style foreign to the Harappa tradition. Their nearest parallels are found in Palestine in the Hyksos period between 1800 and 1500 B.C. Alongside these signs of trouble and arrival of items of warfare made in far-off lands, is also cited a burial found in the deserted courtyard of a house in HR area of Mohenjo-daro. In this burial is found a pot which is seemingly akin to cemetery H pottery and its painted motif, to those of Kulli or Jhukar ware.

Heine-Geldern's studies, based on the isolated finds of weapons and other copper-bronze objects, have already been mentioned. He attributes these objects to a migration which passed through the region from south-east of the Caspian sea where its traces can be recognised at Tepe Hissar near Damghan and at Tureng Tepe near Asterabad. Amongst the evidence he cites a number of finds from different places: a trunnion axe from the Kurram valley near Shalozan, a bronze dagger from Fort Monroe (west of Indus), copper swords with antennae hills from Gangetic plain and from Hyderabad, a pin with two deer-top an axe-adze from Mohenjo-daro, a bronze macehead and the Jhukar seals from Chanhu-daro. He dates all this evidence on the basis of parallels around 1200 B.C. W. Fairservis also reaches the same date for some pastoral migrations on the basis of his researches in the Quetta

valley (26).

As discussed in the last chapter in some detail, the movement of some argo-pastoral tribes is discovered by excavations in the Swat, Dir, and Chatral valleys of northern Pakistan, in the Gomal valley, and at Sarai Khola near Taxila to the east of the Indus around 1600 BC. The newcomers largely adopted pottery of the indigenous people but they introduced horse, Baccarat camel, and rice from the north-west. Horse burials along with the deal is unmistakably a central Asian custom. the deal is unmistakably a central Asian custom. 700 BC. To this, we can add the Cemetery H culture, again described in the last chapter, which seems to be intrusive in many respects. The grey ware using people in the Ghaggar-Hakra basin and the Indo-Gangetic Divide is also important in this context. It has been generally dated to the first half of the second half millennium BC. Some of the terra-cotta figurines and grey ware dishes and bowls have family likeness with Gandhara Grave Culture (27). In its later phase the unpainted grey ware continues to survive side by side with the Northern Black Polished Ware in the early historic period in Ganga-Jamuna Doab.

It is generally thought that contemporary with some of these archaeological cultures was the corpus of Vedic compositions, especially the RgVeda. Since the precise dates for these texts remain controversial, it is difficult to equate the literary and the archaeological sources chronologically (5).

Role of Cultural Diffusion: In the above survey of archaeological evidence it has hastily been assumed that the evident cultural change which is visible in the second millennium BC in the Indus Valley can be attributed to the presence of newcomers in certain nodes of regional cultures. This could be a safe assumption but caution is needed because culture can change through indigenous evolution or simply through cultural diffusion without any perceptible movement of people.

A great deal of cultural complementarity is evident between the Greater Indus Valley and the area to its West, especially the northeastern corner of Iran, Northern Afghanistan, and southern Turkmenia, with its long history of development from the Neolithic to the Bronze Age, peaking in the Namazga V period. This cultural interaction may have continued even in the aftermath of the Bronze Age civilizations of the Indus Valley and that of the Oxus region and no migration of western people may be needed to explain the observed material change.

One intriguing thing that goes against the hypothesis of the influx of pastoral nomads from the West is the kind of life the nomadic people might have led is not borne out by the traces of material culture left behind by them. Their pottery seems to be too good to be made by a migrating folk. The explanation offered by the supporters of migration is that these nomads engaged the local craftsmen to make pottery. But, here two objections may be raised: First, would those nomads 'who travelled light' as evident from the assemblages supposedly left by them at Chanhu-daro and Shahi-tump, travel with fragile pottery or would they know how to build houses even with stolen bricks as is found in Chanu-daro? Attribution of the repair of the houses to these nomads seems also to bestow on them the knowledge of the technique of building of a fairly advanced stage as is reflected in the brick pavements constructed by them for huts or tents or other temporary shelters.

Secondly, the assumption that the religious beliefs, as reflected both in the burial rites and the painted decorations on the pottery at Shahi-tump cemetery, Cemetery H, and the Gandhara Graves is akin to the cultures west of the Indus valley, is questionable. The practice of furnishing the graves with grave goods is a practice which was spread over a large area in the ancient day. Similarly, the practice of cremating and burying the bones of individuals separately in urns is associated with the cultures

which extended over large parts of Central Europe from 13th century onwards. This custom goes back to 1700 B.C. and possibly earlier in Central Europe. The pot-burials of cemetery H represent the remains of the dead after they were exposed. This practice is nowhere associated with the Aryans, whereas it is recorded by Vats elsewhere at Harappa on Mound AB in a house of stratum IV. Marshall has described it as being contemporaneous with Late III period of Mohenjo-daro.

These arguments are valid and the cultural diffusion process cannot be ignored out of hand to explain the culture change in the Indus Valley during the time period under discussion. But in view of the overwhelming evidence presented above and in the last two chapters the migrations of some Indo-Aryan tribes to Baluchistan, western Sindh and the Pashtun country cannot be ignored either.

The Aryan Homeland: The original homeland of the Indo-Europeans, of which the Indo-Aryans is reported to be a branch, is a lingering curiosity about the 'original' homeland of the Aryans and is the subject of continuing debate among philologists, linguists, historians, archaeologists, and others. Over the years, many original homelands have been proposed and a lot has been written on this subject, mainly by Western scholars (28). These homelands include Tibet, Afghanistan, Iran, the Aral Sea, the Caspian Sea, the Black Sea, Lithuania, the Arctic, the Caucasus, the Urals, the Volga mountains, southern Russia, the central Asian steppes, West Asia, Turkey, Scandinavia, Finland, Sweden, the Baltic region, and Pakistan. All these claims are not supported by equally convincing evidence, and none of them is free from problems. This is basically a linguistic debate with little contribution from archaeology and written record.

It has been known for more than 200 years now that a large number of languages of Asia and Europe are closely related to each other and that their speakers shared a common mythology and even rituals. The relationship among the Indo-European languages is most easily seen in their vocabulary. In many languages, now geographically separated by vast distances, words for a basic concept like numbers are similar. Words pertaining to an ancient and sacrosanct institution like family are the same in many languages. Even words associated with human body are similar.

Furthermore, it is well known that people cling to their mythology even while borrowing vocabulary and technology from others. Common mythology, as illustrated by equivalence of RgVedic *Dyaus Pitr* with Greek *Zeus pater* and Latin *Jupiter*, all meaning "sky father",underscore the basic oneness of the porto-Indo-Europeans. Indeed, the most natural way of explaining the IndoEuropean community is to assume that there existed a porto-Indo-European people bound together by geography, common culture and a common mother tongue. From their homeland, these people dispersed, in stages, chalked out their individual cultural trajectories and eventually entered history (6). One of these dispersing group was Indo-Aryan who migrated generally to the south to southern Turkmenia, Afghanistan Iran, and possibly to Pakistan to the west of the Indus River.

The immediate area from where this southward migration took place was most likely a central Asian area, called the Bactria-Margiana Archaeological Complex (BMAC), encompassing northern Afghanistan, southern Turkmenia and Uzbekistan. Their previous connections probably go back to the north of the BMAC area and to the southern part of Russia - an area of the Andronovo culture. Rajesh Kochhar (6) describes these cultures and peoples in considerable details.

At some point in time, the southward moving people got divided into two sections: one Avestan and the other Vedic. It is the Vedic people who are known to have entered the Indus Valley during the middle of the second millennium BC.They sang praises to their gods and offered them sacrifices. As

related earlier, some of these hymns have reached us, by oral recitations generation after generation till they were written down in the fourteenth century AD in South India. This collection of oral texts is the RgVeda, sacred to the Hindus. These particular tribes we identify as the Vedic people to distinguish them from other Indo-Aryan tribes, who may also have encroached on the Indus Valley during the same time, or before and after. One such group, who also claim to be 'Aryans' is the people who held the Avesta as sacred. Both of these texts are very close - in language as well as the themes. We do not know whether these people encroached the Pashtun country or not - most likely they did but did not enter the Indus Valley proper. Probably they remained confined to Baluchistan. They are nonetheless of interest to us as a supplementary source of information.

The first clearly documented historical evidence of Vedic people comes neither from Central Asia nor from Pakistan but from upper Mesopotamia and Anatolia. About 1380 BC a Mitanni king concluded a treaty with the Hittite ruler Suppiluliuma I in which the Vedic gods Mitra, Varuna, Indra and the Nasatyas were invoked. Moreover, among the tablets which were excavated at Boghazkoy, the Hittite capital, a manual about horse training was found which contains a large number of pure porto-Vedic words. There can be no doubt about the very direct cultural and linguistic relationship of the ruling elite of the Mitanni kingdom with the Vedic Aryans in Pakistan. But this does not necessarily mean that these 'West Asian Vedic Aryans' originated from here. It is more likely that Vedic tribes started more or less simultaneously separate migrations from their mutual homelands in southern Central Asia to Pakistan and West Asia. As in the case of the Vedic Aryans in India, their 'brothers' in West Asia, too, appear to have had some earlier Aryan predecessors. In the early sixteenth century BC, the names of the Kassite rulers of Babylon may have been of Aryan origin, but they show no link with the language of the Vedic Aryans.

The RgVeda does not contain any hymns that refer to the Aryan homeland and the migrations from it. There is, however, no basis for supposing that if such hymns had been composed they would have been preserved, and consequently since they are not extant they were never composed. The absence of evidence does not constitute evidence of absence (6).

Fortunately, the RgVeda's geographical silence (or lapse) is made up for by its close ally the Avesta which provides explicit geographical information. An old Yast, the Zamyad Yast (10.66), refers to lake Kasavo that receives the Haetumant river. Haetumant is the Helmand River; Kasavo then must be the Hamun in Sestina, eastern Afghanistan. The first chapter of the later Avestan text Vendidad lists 16 lands which Ahura Mazda created and described to Zarathushtra. Ten of these lands can be positively identified and their names can be followed from the Achaemenian kings or Greek geographers down to modern times. Three of these names, Haroyu, Harahvati and Hapta Hindu, also occur in the Rgveda in an equivalent form: Sarayu, Sarasvati and Sapta- sindhava. These lands in Central Asia, Afghanistan and east Iran must be the ones that accepted Zoroastrianism relatively early. The Avesta as well as later-day Pahalvi commentaries make central Asia the seat of early activities of Zarathushtra. Kochhar (6) argues that in view of the extremely close relationship between the RgVeda and the Avesta, central Asia must be accepted as the habitat of the Indo-Aryans also.

Zarathustra called himself a *zaotar* (Vedic *hotr* priest). Mitra and Asura are divinities in the Avesta as they are in the RgVeda. Indra and Devas are demonized in the Avesta, but Vrtrahan, which in the RgVeda is often used as an epithet of Indra, is retained as a divinity. Thus Zoroastrianism presupposes the existence of RgVedic elements, some of which were retained in the new religion while others were negated. Furthermore, many RgVedic clan names are phonetically similar to the old Iranian

names preserved by Greek historians: Paravata, Kamboja, Parsu, Parthava, Spljaya, and others. All this evidence unequivocally makes the Vedic and Avestan people one (6). There is another reason why the joint IndoIranian home, prior to their dispersal, should be located in central Asia, particularly Afghanistan. People migrate from their homelands when they face a shortage of food or a hostile environment. It is thus understandable that people from central Asia and Afghanistan should come down to fertile valleys, the Indus plains included.

The Arrival of the Indo-Aryans: For a long time in the nineteenth and the first half of the twentieth century the arrival of the Indo-Aryan people and their language and culture used to be explained on the basis of an invasion. This smug theory that a cavalcade of Aryans rode roughshod into Pakistan, bringing their superior weapons and horse-driven chariots with them, was, however, seriously challenged by the middle of the last century. The certainty of an invasion was gone, and new answers have thrown their hats into the ring, just as politically driven as the Aryan invasion theory, and like most politically driven scholarship, ranging from plausible to totally bonkers. Invasion theory is presently not subscribed by any serious scholar of India and Pakistan. The archaeological evidence gives no hint of the sudden change one would expect from the conquest and suppression of an entire 'nationality'.

The invasion was eventually replaced by peaceful migration. There are presently many reputable historians who subscribe to this theory in one way or the other. By replacing the word ‘invasion’ with ‘migration’, took the military triumphalism out of the theory but nevertheless retained the basic mechanism and the basic structure of the invasion theory. It was still assumed that the Vedic migrants brought an Indo-European language to this area, with all the baggage that linguists load onto languages - social classes, the mythology - and supported by the same archaeological evidence and pottery that support the invasion theory (29).

Another view, advocated mainly by some Indian scholars, is that the Vedic people were indigenous to “India”. Thus, there is currently a lively debate whether the Indo-Aryans were ‘foreigners’ or “indigenous”. “From the dawn of history, Indo-European speakers lived in India, in the Punjab, where they composed the RgVeda”. A stronger version of the theory adds: “They emigrated to Iran (where they composed the Avesta), Anatolia (leaving that early Hittite inscription), Greece and Italy (where they incorporated local languages to develop Greek and Latin), and finally, ancient Britain”. In this view, the Vedic people may have been, rather than invaders (or immigrants) “indigenous for an unknown period of time in the lower Central Himalayan regions (30). This is obviously a reaction to the earlier colonial thinking: “Look, we in India had civilization before you European did”, and sentiments like this. There is, however, a considerable evidence against it (29) and all archaeological, textural, and linguistic arguments render it purely nonsense.

Anotherspeculationisalsoacurrent range in India: they propose that the people of the Indus Valley Civilization composed the Vedas and that some or all inhabitants of the cities of Harappa and Mohenjo-daro were themselves the Aryans, that the ancestors of the Hindus and the Harappan people were the same - the builder of the glorious “Vedic Civilization”, which was Harappan. Some see in the Indus Civilization not merely the seeds of later Hinduism but the very religion described in the almost ‘contemporary‘ RgVeda. We have dealt with this lunacy in greater detail in Volume IV and concluded this visualization to be merely a Hindutva’s fertile mind.

Today, most historians have discarded the idea of an Aryan invasion of the Indus Valley or a mass

migration to India across Pakistan. They were however, not indigenous people of the Indus Valley and, thus, they did come from outside, from the West. They were also not the agents of language change as some dialects of Indo-Iranian language were already being spoken here. Presently the most favorable mechanism is that the Vedic people entered the Indus Valley as a trickle, in piecemeal fashion, just like all pastoral nomads do. This is indicated by comparative studies of Avesta and RgVedic languages. However, there is no consensus on the routes or timing of these migrations. Who came first and who came second and third is a topic of shear conjecture. On linguistic ground, two main groups have been hypothesized. The Indo-Aryan languages of Pakistan include the non-Vedic or Dardic languages spoken in the mountains of the Northwest, which may represent an earlier wave of Indo-Aryan immigrants. Kochhar (6), distinguishes even three waves of Indo-Aryans who entered Pakistan at the end of the Harappan Civilization. He dates the first two waves *ca.* 200-1800 BC, whereas the third one took place in *ca.*1400 BC. The archaeological evidence is the familiar finds at Jhukar, Chanhu-daro, Sibri, and the like in Baluchistan; the Cemetery H culture in the Punjab, and the Ghadhara Grave culture in the Pashtun country and Pothwar.

According to Kochhar (6), the compilation of the RgVeda was most likely taken up after *ca.* 1700 BC in Afghanistan by a section of the IndoIranians. After 1500 BC, when the Indus culture had finally declined to a post-Harappan mosaic of local cultures, the Vedic people entered the Swat Valley, the Pothwar region, and eventually the Punjab. In about 900 BC, the compilation of the RgVeda was finally closed. Armed with the newly acquired iron technology, the Aryans finally moved east to the Ganga-Jamuna plains and made that region their home. The migration was not in a single procession but in phases and it took almost a millennium to spread across the Indus Valley from the Sulaiman Mountains to the banks of the Ganga. During their migrations and expansion, the Indo-Aryans carried with them not only their religious beliefs, rituals and hymns but also place and river names which they selectively reused as they progressed eastward (6). For example, there is one tributary of the Indus in the Pothwar region which is still called Haro, a name reminiscent of *Haroyu* which is a river in Afghanistan. In later Vedic times, the Ghaggar-Hakra River was named Sarasota, after a river of the same name in Hemand province of Afghanistan. Three other streams in India were also called by this name. Similarly, the name of Gomati (a river on AfghanPakistan border) was transposed on a river in northern India. So was *Septa Sindhava,* a name used in the Avesta to denote some unknown *region in Central Asia*, transferred onto the Punjab.

The Indo-Aryans appeared on the Central Asian scene in *ca.* 2000 BC. This was the time when the urban phase of the Harappan tradition was coming to an end. Archaeologically speaking, some of these tribes first appeared on the northwestern doorstep of the Indian subcontinent during *ca.* 2000-1700 BC. They may or may not be the RgVedic people. Independently combining with the indigenous Indus populations, these people set up some of the post-Harappan cultures, especially Cemetery H culture in Punjab and Jhukar in Sindh. According to Kochhar (6), in the period *ca.* 1700-1400 BC, the RgVedic people were stationed in the Helmand area in south Afghanistan, where they composed the bulk of the RgVedic hymns. In about 1400 BC they arrived on the northwestern tributaries of the Indus. Crossing the Punjab rivers, they eventually arrived in the upper Ghaggar region where they merged with the Cemetery H people to produce the Painted Grey Ware culture. It is these people who, armed with iron technology, moved east of the GangaJamuna doab after ca. 900 BC, almost a millennium after their first incursions in Baluchistan and the Pashtun country of Pakistan.

Indigenous or Outsiders? The one topic that has not been discussed so far is: Were the Indo-Aryans a ‘foreign’ element or were they ‘indigenous’ people? This question is of acute national importance in

India and is clearly political in nature. In context of Pakistan this discussion is rather meaningless. To start with, it is a matter of how one differentiate between the 'indigenous' and the 'foreigner' in the absence of state and state boundaries. Second, when one's loyalty is with one's lineage, tribe, or clan, and not with the land, how is one's 'nationality' defined? Can anyone really tell if the Pashtuns living on the PakAfghan borders are Pakistani or Afghani?

The textural sources (RgVeda and Avesta) and other evidence tell us (6) that before entering the Indus Valley the Indo-Aryans lived in the geographical area covered by Siestan, northern Iran, Afghanistan, and the Pashtun country of Pakistan. Most of this area is now outside the political boundaries of Pakistan but culturally and genetically this region has always functioned as the periphery of the greater Indus Valley. Pakistan has always benefited of new ideas, new cultural traits, new languages, and new genes from this area and contributed in all these respects in the reverse. Thus, all what matters is that in the middle of the second millennium BC some pastoral tribes living in the western peripheries of Pakistan started moving inland, slowly spreading all over Pothwar and Punjab, and eventually spilling over into India. One of these peoples happened to be the Vedic Aryans, the other could very well be the Indo-Iranian, that is, the Avestan people, and still others could have been non-Vedic and nonAvestan but still speaking an analogous language and carrying more-or-less a similar culture.

These people originally stemmed from somewhere in Central Asia, or even from southern Turkey or southern Russia. The point is that the Indo-Aryans originally came from the West, from outside the confines of the erstwhile Indus Civilization, outside the present-day Pakistan. Thus, how do we define the 'foreigness' and how far do we want go in establishing their nearness to the Indus Valley or their remoteness from this land? The matter with India is, of course, different. The Vedic people migrated to India from the Indus Valley where they have been living and acculturating for almost a millennium. By now, they were not the original pastoral people with nomadic culture. They were well-established agricultural people, organized in small chiefdoms, and bearing culture that was a hybrid entity - a synthesis of the Vedic values and the Indus technology. A thousand years of living with the Indus people must also have changed their genetic composition. For India, they were thus 'foreigners' - culturally and genetically.

From historical point of view, the question is superfluous at best. The important point to be kept in mind is that all these newcomers to the Kachi plain, the Punjab, the Pashtun country, and the Northern Areas were racially no different than the people of the greater Indus Valley. Their languages may not be the same as those of the local inhabitants but were probably belonged to the same language family and hence mutually comprehensible. Similarly their religious beliefs and mythologies must have a lot in common with the indigenous people. These are, of course, assumptions and whatever their worth, we shall proceed with these assumptions.

Cattle Raids, Strife and Conflicts: Another question which has vexed the minds of many is whether these intrusions were peaceful migrations or outright invasions. Perhaps as a reaction to the Invasion theory of the past, the pendulum has swung too far to the other side and the intrusion of western nomads is being generally portrayed as peaceful migration or a trickle of peaceful people in search of pastures. Looking at historic examples, however, it would be unrealistic to conclude that such intrusions were painless as a general rule. They were not entering an uninhabited area.The arable land with irrigation water was limited and pastures were confined only to certain areas. The existing users would not have given up these resources without resistance, the incoming pastoral groups must have

fought to snatch them. These newcomers were essentially barbarians and they must be behaving as historic barbarians. While there was strife, this does not mean that that there was a discrete 'invasion'. It also dfoes not mean that there was no acculturation and assimilation.

As stated above, a number of Indian scholars, mostly of the Hindutva color, are still clinging to the idea of the Aryans bringing with them the gift of a superior civilization which later formed the basis of an enduring "Indian" or "Hindu" civilization. The historic accounts of the Aryanization of the subcontinent are given in such a way that the Aryan onslaught on the indigenous people and its impact on their subsistence economy apperars in a way a beneficial and altogether a peaceful endeavor. This is far from reality. The Vedic people did not bring any 'civilization' with them beyond some needed social dynamics which is generally a characteristics of pastoral nomads. The Vedic people, like any other pastoral nomads of the time, were barbarians whose primary objective was pillage and loot as well as seeking better pastures for their cattle, goats, and sheep. Their encroachments on the land and water of the people already inhabiting the Pashtun country (Swat region, for example), the Pothwar plateau, and later on the Punjab, may have sometimes been peaceful but the incursions of the Vedic Aryans, like other pastoral nomads the world over, often led to conflict between them and the locvals. The RgVeda is full of these accounts.

Bennet Bronson (3) theorizes that there are four possible roles that pastoral nomads can play in dismembering a settled society: 1) they may be only vultures, scavengers that wait until their victim is thoroughly dead before starting to feed; 2) they may be jackals, predator-scavengers that finish off already weak or sick; 3) they may be wolves, predators that not only prey on weakness but that harry healthy victims until they become weak; and 4) they may be tigers, capable of bringing down the healthiest and strongest of prey without preliminary harrying. Indus history provides us all four examples from time to time. The last, the tiger role, perhaps exemplified by Babur, Temur, and Jenghis Khan, does not interest us here because there is no evidence for an organized large scale invasion on the Indus Valley in the second millennium BC. The first, or vulture role, exemplified by innumerable cases of looting and pillage in train of victorious invasions of large armies has been commonplace in Pakistan's history but it surely does not apply here.

A central problem is that of telling the wolf apart from jackal is difficult since these barbarians of both classes can be expected to have made decades or centuries of probing attacks before the coup de grace is finally administered. The wolf scenario is a familiar one: constant probing, constant harrying, opportunistic biting and decapitating, and finally feeding on the physically exhausted victim. Unfortunately, a jackal scenario could look quite similar: the only difference is that the activities of the jackals are not a determining cause of later events. The victim is already weakened or sick; the jackal only robs it the opportunity to recover.

The picture that emerges in the greater Indus Valley, as extrapolated from RgVeda, is a mixture of wolf and jackal strategies: sometime destroying the agricultural base of the Indus agriculture by destroying their water dams, sometimes burning their settlements with the help of their god *Agni* (the fire), sometimes simply stealing their cows, and sometimes just extorting them with the threat of violence; the disorganized and weak Indus people, in turn, sometimes giving the raiders some ineffective resistance, sometimes hiding away their wealth, i.e. the cattle, sometimes running away for their life, sometimes agreeing to pay ransom to the invaders' chief, sometimes bribing the Aryan's bards and messengers, and occasionally agreeing to be their servants. A similar drama must have been played during the earlier raids by different sets of barbarians in the final stages of the Harappan

Civilization. It is possible that wolf tribes softened the enemy; when they had their full, the jackal could have come in to finish the job. But they were by no means the destroyers of the Harappan Civilization, nor were they welcome guests.

The chief opponents of the Aryans were the indigenous inhabitants who already lived in small pastoral camps and agricultural hamlets. Many passages in the *RgVeda* show a general feeling of hostility towards these people known as Panis, Dasas, Dasyu, and by several other names. *Pani* are described as wealthy whot refused to patronize the Vedic priests or perform Vedic rituals. More hated than the *Panis* were the *Dasas* and *Dasyus*. The Dasas have been equated with the tribal people called the Dahaes, mentioned in ancient Iranian literature, and are sometimes considered a branch of the early Aryans. Dasyu corresponds to *dahyu* in the ancient Iranian language. It has therefore been suggested that conflicts between the RgVedic tribes and the Dasas or Dasyus were those between the two main branches of the Indo-Iranian/lndo-Aryan peoples who came to Pakistan in successive waves. It is thought that the Dasas and Dasyus were most likely people who originally belonged to the Aryan speaking stock and in course of their migration into the Indus Valley they acquired cultural traits very different from those of the Rigvedic people. Not surprisingly, the *Rigveda* describes them as speaking a language different from that of the Aryans. Since we do not know the chronology of the RgVeda, it is very well possible that the conflict between the Indo-Aryans and the Dasa and Dasyus reflect the happening in Afghanistan and northern Iran.

We know little about the weapons of the adversaries of the Indo-Aryan people, although we hear of many defeats inflicted by Indra on the enemies of the Aryans. In the *Rig Veda*, Indra is called *Purandara* which means that he destroyed dwelling units. We cannot, however, identify these settlements held by the pre-Aryans, some of which may have been situated in Afghanistan or even in southern Turkmenistan. The Indo-Aryans' success is commonly attributed to their use of horse and chariot. The Aryan soldiers were probably also equipped with coats of mail *(varman)* and better arms. The non-material strength was perhaps their war-like demeanor and a flexible tribal social order. The indigenous sedentary people, on the other hand, were prone to stick to their possession and to a peaceful co-existence. That the Aryans made use of fire in their fight against their enemies is quite certain from the vivid descriptions available in the RgVeda. The hymns addressed to Agni are not directed to its anthropomorphization and its use but, as the descriptions make it clear, it is plain and simple fire. From the RgVeda, one gathers the impression that fire was used to burn people, their houses, their belongings, to evict them from their houses and settlements, to kill them.

The old view highlighted the supposed physical differences between the Vedic people and the Dasas and Dasyus, as the 'dark-skinned' and 'flat-nosed'. These Dasas and Dasuys have also been described as the aboriginal people of eastern Afghanistan and western Pakistan who were displaced and pushed eastward by the fairskinned Aryans. Whether there were stark differences in physical appearance can, however, be debated and these epithets can be interpreted in different graphic skinned and flat-nosed do not describe any physical characteristics; these are simply terms of disrespect and contempt, as they are used in this sense in many Indic languages even today in Pakistan and India. What is certain is that there were a range of cultural differences, including those of religious practice, and possibly in mode of speech, language, or dialect.

There were, of course, conflicts between various Aryan tribes themselves. The Vedic Aryans did not only fight the Dasas and Dasyus, and expropriated the cattle of the Panis, they also fought among themselves because each of their tribes had to defend itself against other tribes - Aryans who came at

a later stage and coveted the land which the others had already taken away from the Dasyus. On the banks of the river Hariyupiya, probably on the Pak-Afghan borders, a battle was fought between two tribes in which 130 knights were killed. Also, two hymns of the Rigveda (VII, 18 and 33) report a 'Battle of Ten Kings'. This seems to have been a fight between two Vedic tribal confederations.

Sudas, we are told, was the chief of the Bharata tribe settled in the western Panjab. Vishvamitra was his chief priest, who had led him to victorious campaigns on the rivers Vipas and the Shutudri. Later Sudas dismissed Vishvamitra and appointed Vasishtha, who ostensibly possessed greater knowledge and priestly lore. Vishvamitra, feeling slighted, formed a confederacy of ten tribes, five of whom were important and are frequently referred to in the *RgVeda* as *panchajanah* (five tribes). Some of these tribes were the local Indus tribes, as their names indicate. In the battle that followed on the banks of the Purushni (the Ravi), Sudas was victorious.

With the horse and the chariot by way of a dazzling new technology, and with the subtleties of ritual sacrifice as a mesmerizing ideology, the Arya may have secured recognition of their superiority by a process no more deliberate and menacing than social attraction and cultural osmosis; thus the Aryan weapon superiority and conquest by horse and chariot of the Indus people could be as much a 'myth' and a 'red herring' as the existence of an Aryan race. Besides superior weapons, there are many other factors which enable one group of people to overpower the other.

Observers have long been puzzled by the paradox of an area that contains one of the world's great civilized traditions but whose political history is unusually short. Bronson (3) argues that aside from possible idiosyncrasies of regional ways. There are opinions, on ethnoexperience, that the terms like ‘darkpsychology, one of the few obvious differences between all Indus states and most states elsewhere in history is the fact that all were within raiding range of unusually effective barbarians. But in few other parts of the world have barbarian raids been as unremitting and as spectacularly successful. From the days of Alexander down to the mid-eighteenth-century blitzkrieg of Nadir Shah, attacks by outsiders, sometimes organized as states themselves but invariably making heavy use of tribal soldiers, are a normal state of affairs. With the exception of an apparent intermission between A.D.750 and1000, not a century passes without a great raid that goes at least as far as the Ganges and probably not a decade when barbarians do not repeatedly cross the Indus. And it is noteworthy that the armies and often the leaders of these outside attackers are usually from one area, the North West frontier of Pakistan. The peoples of the adjoining areas, across the Indus, such as those of the hilly areas of Pothwar, sometimes resisted the invaders but more often joined them in raiding the richer areas further east.

This extraordinary situation is without parallel in the history of other regions: it is as if the fall of the western Roman empire had been prolonged indefinitely, with an endless supply of Attilas, Theodorics, and Stilichos, but with very few Charlemagne and not even the possibility of a Belisarius or Justinian (3). This analogy may be overstretched. But the Indus data do at least indicate that we must be cautious about accepting the European-Middle Eastern-Chinese pattern of short dark ages and long imperial periods as normal. Cultural and political success do not always go together. In ancient Pakistan, for all its cultural enlightenment, the barbarian-dominated dark ages are the political norm and the stable states the rare exceptions.

Assimilation and Acculturation: Admittedly, indeed on their own admission, the Arya cattle-rustlers of the RgVeda did antagonize the indigenous Indus people. But they also compromised with them,

adopting their technology, their religious cults, especially their magic spells, their vocabulary, and inducting Dasa clans and leaders into their society. Despite the importance attached to the purity of the Vedic language, there is even a strong hint of Dasa-Arya bilingualism. Thus, notwithstanding the inevitable conflicts between the Vedic people and the local inhabitants, there was certainly a long process of cultural acculturation and assimilation between them. This is evident from the linguistic changes in the Vedic texts. The later Vedic texts contains a large number of non-Vedic substrate words, especially from Munda, Dravidian, and some unknown language X which were probably spoken in the region, along with some Indo-Aryan diaects. These 'loan words' show that the RgVedic people were interacting with Indus people. The reflexive consonants clearly show the word to have been borrowed from some local Indus tongue.

There is also a vivid change in religion, especially the composition of the AtharvaVeda that seems to contain a hefty doze of magical spells which are though to make the core of the Indus religion (31). In all appearances, the Indus priesthood was being assimilated into the Vedic religious system.

Like the non-Aryan priesthood, some conquered chiefs were socially assimilated and given high status. Such Dasa chiefs such as Balbhuta and Taruksha are said to have made generous gifts to the Vedic priests; they thus earned bardic praise and gained in status in the Aryan social order. Even Sudas (literally 'good giver'), an important ‘Vedic’ chief, seems to have had a Dasa origin. There are many tribes with non-Indo-Aryan names in the Rg*Veda*, such as the Chumuri, Dhuni, Pipru, and Sambara. The text also refers to Arya chieftains with non-Indo-Aryan names, e.g., Balbutha and Bribu. All this is indicative of processes of cultural interaction. The RgVeda does not throw any light on the process of assimilation of the pre-Vedic or non-Aryan commoners into the Aryan fold. Perhaps most of the ordinary members of the aboriginal tribes were considered to be outside the pale of the Aryan life and were reduced to the lowest position in society.

Social distance between the Aryans and the Aryanized Indus elite on one hand and the nonAryans on the other increased over time. Not surprisingly they may have felt the need to retain the purity of their blood, little realizing that much nonAryan blood was already flowing in their veins, just as some Indus gods had wormed their way into the Vedic pantheon, For example, Rudra, whose arrows brought disease, evolved from a Harappan cult; so did Tvashtri (the Vedic Vulcan). There was a great deal exchange in agricultural sphere as well the craft technologies. A synthesis of Aryan and non-Aryan speaking peoples was taking place at different levels.

The archaic Sanskrit in which the RgVeda is written soon lost its precise significance and by the Indian Middle Ages elaborate commentaries had to be devised to explain the ancient text.This method of interpretation, however, is one which grew up at a time when the Harappa Civilization was still undiscovered and when it was assumed that the Aryan intruders encountered only a rabble of aboriginal savages who could have contributed little, save a few primitive animistic beliefs to Vedic thought, to the structure of later Indo-Aryan society. With such an assumption it was safe to regard the whole Vedic corpus as representing in the main an Aryan evolution owing practically nothing to the older vanquished people of the Punjab. But as sufficient archaeological material accumulated, the advent of the Aryans in Pakistan was in fact the arrival of barbarians into a region which has very recently had experienced a highly organized society based on a long-established tradition of literate urban culture. As it turned out, the situation was, in fact, almost reversed, for the intruders were seen to be less civilized than the locals. In the RgVeda we see everything from the Aryan point of view alone. They are the heroes, and scant tribute is paid to their contemptible

opponents, more skilled in the arts of peace than in those of warfare. But as we have already seen, the Harappa tradition is very unlikely to have been suddenly and totally wiped out; the Vedic culture must bear a heavy Indus stamp on it.

In Hindu mythology there is a fable in one of the Puranas that recounts the genesis of the universe. The gist of this story is that when Lord Vishnu entered the belly of Brahma, he saw there the whole universe, including Vishnu himself. In turn, when Brahma entered the belly of Vishnu, he saw there the whole universe, including Brahma himself. Then who gave birth the universe? The conclusion is: both, but without any propriety of either. This metaphor very appropriately applies to the creation of the Late Vedic culture in Pakistan and the Indo-Gangetic Divide. The Vedic and nonVedic contributions to this synthesis should be considered in this light, without trying to establish the primacy of either. The non-Vedic elements, that is, the post-Harappan cultural mosaic, have been a largely uncredited partner in the creation of this synthesis, for we have heard it only at those relatively late historical moments when they had already crashed the Vedic tribal club. The only way we can tell the story of this synthesis is through archaeological finds - things without words - which are meager. On the other hand, the Vedic literature is vast - words without things - and more powerful.

The evidence from the multiplicity of archaeological cultures representing diverse peoples and the influence of non-Aryan speakers on Indo-Aryans supports a different concept, namely, the possibility of peoples of different cultures coming into contact and making linguistic and cultural adjustments. This process must have continued over many centuries. The result was to produce a cultural synthesis which we may refer to as culturally Indo-Aryan, that is, a synthesis of Indus or and Aryan elements into a hybrid culture which, after a long period of digestion, was later transmitted to India. Furthermore, the concern has shifted somewhat from the centrality of the Vedic language and religious practices to attempts to reconstruct the society of the time using both archaeological and literary data. Studies pertaining to language and religion therefore are becoming part of the larger picture of the different facets of the societies of that period (5).

The Issue of the Language: By an exercise of faith rather than evidence or common sense, it was assumed that it were the Indo-Aryan people, who disseminated their Indo-Aryan language to the Indus Valley as they invaded or migrated from the West. It followed that the text of the *RgVeda* was in a language that was actually spoken by those who introduced this archaic form of Sanskrit to Pakistan. The Vedic people were, therefore, considered potent agents of a radical linguistic change in the greater Indus Valley in the second millennium BC. The invasion argument is tied to this assumption as though when a particular language is identified as having been used in a particular locality at a particular time, no attention need be paid to what was there before; the slate is wiped clean. Obviously, the easiest way to imagine this happening in real life is to have a military conquest that obliterates the previously existing population! (32).

There is, however, no archaeological evidence to support a large-scale invasion by any particular cultural group during this period. Whether the invaders or the migrants, the Aryans could not have been a vast hordes of people, because the land from which they came could not support a greater population than most of the civilized and cultivated regions they invaded. It is true that the movement of a language into a new homeland certainly requires that its speakers move, but this is not tantamount to mass movements of tribes, much less a sequence of destruction and trails of settlement desertions along the way.

A more pertinent point is: do we know what language or languages were being spoken in the greater Indus Valley before the Vedic onslaught? That is to say: do we really know that that the invading or migrating Vedic people in fact really caused this language change? It is equally possible that the people of the Greater Indus Valley, especially those inhabiting along the western borders of Pakistan, were already speaking the dialects that were the offshoots of the Indo-Aryan languages and thus comprehensible not only to the Vedic people but also to the Indo-Iranians whom we know from the Avesta. Thus, even though Indo-Aryan languages did not originate in Pakistan, we cannot suggest that this language change occurred with the advent of the Vedas and their authors. There is overwhelming evidence that the Indus Valley was intermittently linked to Iran, Afghanistan, and Central Asia, even with some pre-Harappan links between Baluchistan and Central Asia. The cultural interaction, including the language, was intense way before the advent of the Vedic people in the western borderlands of the Indus Valley.

Despite this possibility, the facile explanation of conquest or cultural hegemony by the Vedic people is the prevailing explanation of the language change in the Indus Valley. Why is this sort of thing so attractive? Who finds it attractive? Why has the development of early Sanskrit come to be so dogmatically associated with an Aryan invasion or mass migration? In some cases the association seems to be a matter of intellectual inertia. Thus Thapar, who provides a valuable survey of the evidence then available, clearly finds the whole 'movement of peoples' argument, whether an invasion or a migration, a nuisance (29). Ethnographic studies are now starting to move away from this explanation and starting to examine some of the more complex aspects of historical processes in the second millennium B.C.

Since the theory of an Aryan race has now been discarded and that of an Aryan invasion of the Indus Valley or a mass migration of the Vedic people is also being seriously questioned, the discussion, in as much as it relates to Indo-Aryan language entering Pakistan, its development the way it did, and its gradual establishment as the major linguistic system of Pakistan and northern India, boils down to the submission that the spread of the Indo-Aryan languages in Pakistan and their spread to northern India is not connected with the incoming of the Vedic people in the Indus Valley. Language can be transmitted in a variety of ways such as by migrations, by pastoralists who, although nomadic, have a close relation with settled communities, or by traders. Invasion and mass migration are not the only methods of spreading a language.

Quoting Allchins: “There seems to be general agreement that the Indo-Iranian languages were originally spoken in the steppes of Eurasia, and that over a period of time they spread, undoubtedly largely through the medium of movements of groups of speakers, into the regions where they are later traceable through written records or where they are still spoken ... We would like to insist that the arrival and spread of the Indo-Aryan languages must have been associated with the movement of Indo-Aryan-speaking people, and that their relations with the populations they encountered must be conceived as a dynamic process of culture contact, producing a variety of cultural responses” (33). The ‘movement of people’ need not refer to the Vedic people and the timeframe of language change need not coincide with the advent of the Vedas in the Indus Valley.

Another picture is also emerging. It suggests that the Vedic was not a language spoken by the Vedic people, it was an artificial language, formulated upon the languages already existing in eastern Iran, Baluchistan, southern Afghanistan, the Pashtun country west of the Indus, and the Pothwar Plateau. This observation is based on the fact that there are many words from the Dravidian, Munda, and some

unknown language, the Language X (34) in the RgVeda and scholars in Indic studies are exploring this dimension of philological studies. Reviewing the RigVedic references in this light, it is possible to reconstruct evidence for Vedic language as a formulated language. In fact, the proposition that Vedic was a purposefully formulated language is not new. There are two conclusive references to the formation of a new language. They are the word *navIyasIm* (RV 8.51.5 and 8.95.5) 'newly formed language'; and *giram*, which was obviously formulated from extant languages (8). In this sense, the language of the Veda was not vernacular - a language spoken neither by the Indo-Aryans not by any other group but constructed on the structures of available vernaculars.

Another hypothesis is that the language(s) of the Indus peoples did not disappear under the impact of the Aryans. These languages, most likely belonging to a single family of languages, lived on and gradually absorbed the language of the newcomers. The ultimate result was an Indus *lingua franca*, which we know by the name of Sanskrit. This language flourished as literary medium for a long period of time till it was replaced by several folk languages, commonly called *Prakrit*. This leads us to the proposition that either the Aryans were entering the area where the languages spoken were more or less the same as their own, or they adopted the language of the 'locals' in the process of mutual acculturation. Most likely, the languages spoken by the Indus people belonged to the same language family as that spoken by the Aryans. An open communication between the Aryans and the Indus tribes is quite evident in the RgVeda. Of course, there must be some changes in vocabulary both in the incoming as well as the indigenous languages. The result was the development of Sanskrit in the greater Indus Valley.

The Late Vedic Age and Eastward Expansion: In the mid-first millennium BC, after many centuries of acculturation and assimilation with local Indus cultures, the Indo-Aryans and the 'Aryanized' Indus people began to move eastward in the Indo-Gangetic Divide and the upper GangaYamuna Doab. There was a probably climactic shift which caused the Indus Valley more arid. Thus the basis for agriculture became less secure at the same time as the jungles blocking the Aryan path became more penetrable. This period corresponds with the terminal phase of the RgVedic composition. The Yamuna is mentioned twice in the RgVeda but the Ganga only once in Book X which is supposed to be the latest book of the RgVeda. The Punjab, with the Ghaggar-Hakra at its core, seems to have been the heartland of Vedic settlement for quite some time and the IndoAryan settlements in this region continued in force in later periods. It is in this region that the Vedic Aryans made the transition from a semi-nomadic life to settled agriculture. After centuries of nomadic or semi-nomadic life, the Vedic Aryans now began to cultivate fertile but semi-arid areas by means of flood irrigation and also started to clear the jungle wherever this was possible. The RigVeda reports: 'They made fair fertile fields, they brought the rivers. Plants spread over the desert, waters filled the hollows' (IV, 33).

The method of slash-and-burn cultivation was probably known from the Indus people, and Agni, the fire god, was praised for helping them in this endeavor. But this method did not mean a permanent clearing of the jungle. The trees would sprout again and the coveted 'undivided fallow land' could not be acquired in this way. For this, strong axes and ploughs were required. It is not yet known to what extent the migrating Aryans possessed bronze and copper which had been in common use during the Indus Civilization. However, such metals were better suited for the making of ornaments and arrowheads than for axes and ploughs. The extension of regular cultivation in the Gangetic plains was therefore difficult before iron was used on a large scale. The RgVeda does not mention iron, not even in the later books I and X but it contains a striking passage: "The deities approached, they carried axes; splitting the wood, they came with their servants" (X, 28). This seems to be an indication of the

beginning of a systematic clearing of the jungle in the IndoGangetic Divide. The use of iron in these endeavors is, however, often exaggerated to beyond comprehension; archaeological excavation in northern India have not yet produced tangible evidence of a widespread use of iron. The metal seems to have remained rather scarce and was mainly reserved for weapons; iron axes have not yet been found at all.

This period of settled agriculture of the Vedic society is generally referred to as the Late Vedic age. Settled life produced a great deal of social change and of intensified conflict within and with the peoples whose land and water they were infringing upon. The society started to be greatly stratified and the process of assimilation and acculturation with the non-Aryan peoples intensified. Trade and crafts increased, small territorial principalities with small residencies arose, and there was a flowering of philosophical thought. There is no doubt that the Aryan society of the middle of the last millennium BC was fundamentally different from that of the Early Vedic period in the Indus Valley. In many respects, this period is considered the formative phase of the Indian culture. It has also profoundly impacted the culture of Pakistan, as reflected in the writings of the Greeks.

The later Vedic texts cover a wider geographical area which now includes the western Ganga plain. The extension eastwards was along two directions: the foothills of the Himalayas, a route which was later to become famous as the *uttarapatha,* literally, the northern route, and a more southern route following the banks of the Yamuna' and Ganga. Both these geographical features, the foothills and the rivers, provided access into the densely forested plain. Familiarity with this wider geographical area meant having to adjust to a variety of new environments.

The transition from semi-nomadic life to settled agriculture in the Late Vedic age is illustrated by the changing meaning of the term *grama,* which nowadays means 'village' in most Indo-Aryan languages. The German Indologist Wilhelm Rau, who has analyzed Late Vedic texts for evidence of social and political change in this period has shown that the word *grama* originally referred to a nomadic group, its train of vehicles and its band of warriors. The train of vehicles obviously formed a ring or barricade of wagons whenever the group took rest. This would explain why in one Brahmana text it is mentioned that 'the two ends of the grama came together'. It is also significant that the word *samgrama,* which still means 'war' today, is related to this term. Samgrama must have originally meant a meeting (*sam*
- together) of two or more grama, which in the social context of those days always meant a fight. When the Vedic people settled down they moved from carts into houses and the word *grama* came to refer to a village rather than to a train of vehicles. It is characteristic that in all Rigvedic texts grama still means a train of vehicles or group of warriors and only in the Brahmana texts does it mean a village.

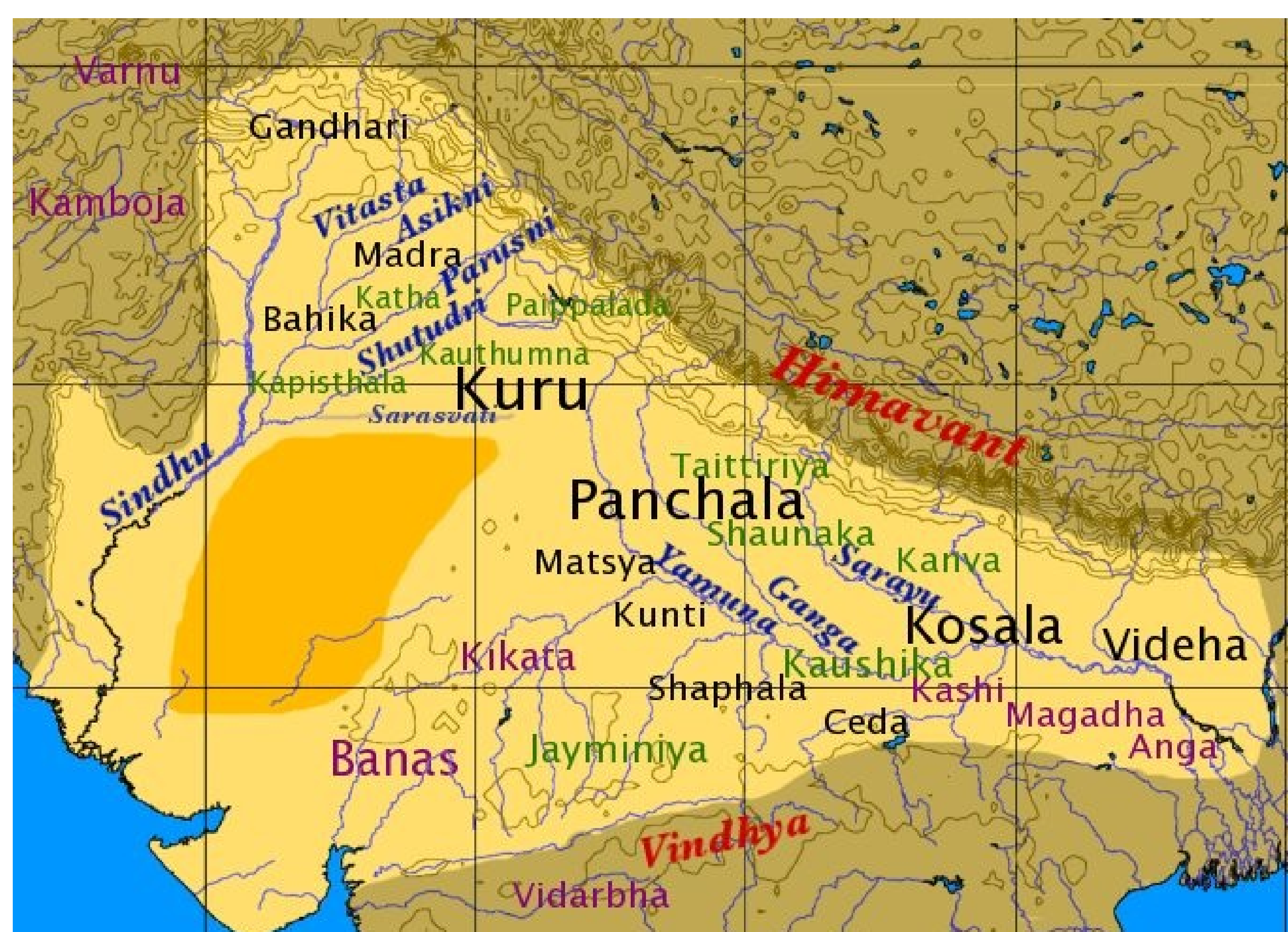
The history of the later Vedic period is based mainly on the Vedic texts which were compiled after the age of the *RgVeda.* All these later Vedic texts were compiled in the Indo-Gangetic Divide and upper Gangetic basin in *ca.* 1000-500 BC. During the same period and in the same area, digging and exploration have brought to light nearly 700 inhabited sites. These are called Painted Grey Ware (PGW) sites and have been described in the last chapter. PGW sites are often sited as the habitational areas of the Vedic Aryans but the evidence is rather flimsy.

The late Vedic texts show that as the Aryan settled in the Divide, the Bharatas and Purus, the two major tribes, combined and formed the Kuru conglomerate. Soon these people, Kurus, occupied the upper

reaches of the doab, the area called Kurukshetra or the land of the Kurus. Gradually they coalesced with a people called the Panchalas who occupied the central part of the doab. They set up their capital at Hastinapur situated in Meerut district in UP (India). Excavations at Hastinapur, datable to the period 900 BC to 500 BC, have revealed settlements and faint beginnings of town life. They do not, however, reflect the description of Hastinapur in the *Mahabharata*.

Simultaneouslywiththetransitionfrom mainly pastoral to mainly agricultural economy there arose several new arts and crafts. Many of these are enumerated in the later Vedic literature. Mention may be made of smelting, smithery or carpentry, weaving, leather-working, jewelerymaking, dyeing and pottery-making. It is difficult to say how far smelters and smiths were connected with iron-working. Probably they worked mostly in copper, which continued to predominate, iron still being rare. Weaving was practiced on a wide scale and perhaps remained confined mostly to women. Leather-work, pottery and carpentry were connected with building activities, of which we have some evidence in this period. Glass hoards and bangles found in course of excavations provide evidence of working in glass; these objects may have been used as prestige items by a limited number of people.

Settled life led to a further crystallization of the fourfold division of society. Initially one of the sixteen classes of priests, the brahmanas emerged as the most important class and claimed social and political privileges on account of the



Atharvaveda the rashtra (territory) is said to have been held by the king and made firm by the king Varuna, and the gods Brihaspati, Indra and Agni. The coronation ceremony called rajasuya, for which a fixed place was necessary, is said to have extended over two years. The territorial aspect of kingship is clear from a text which enumerates ten forms of government prevalent in different parts of the country, Unlike the earlier period, kings now ruled over territories and not over nomadic groups

moving from place to place.

Elaborate sacrificial rites undermined the

Map of northern India in the late Vedic period

growing cult of sacrifice and ritual performed for their clients and patrons (mostly the rajanyas/ kshatriyas). The kshatriyas constituted the warrior class and came to be looked on as protectors; the king was chosen from among them. The vaishyas devoted themselves to trade, agriculture and various crafts and were the tax-paying class. The shudras were supposed to serve the three 'higher varnas and formed the bulk of the laboring masses. Most likely the community exercised some sort of general control over them; in this sense they may be compared with the helots of Sparta. Shudras were not owned by members of the upper classes as slaves, the evidence for whose existence in the greater part of the Vedic period is lacking. A text speaks of ten thousand women slaves captured from various countries and given by Anga to his brahmana priest; but there is no mention of men slaves, Obviously their number was far too small to attract any notice.

The material and social developments of the age were amply reflected in the contemporary political system, Kingship underwent much change. Its earlier tribal character came to be diluted, with increasing emphasis on the territorial aspect of the institution. In a passage of the importance of the RgVedic gods, some of whom faded into the background. The priests became the chief beneficiaries of the sacrifices and consequently gained in power. Cattle were slaughtered at sacrifices, often in large numbers. Animal bones with cut marks found in course of excavations at Atranjikhera and other places are mostly of cattle. Public rituals, therefore, led to the decimation of the cattle wealth, whose importance for the developing agricultural economy can hardly be overestimated.

Although very few agricultural tools made of iron have been found, undoubtedly agriculture was the chief means of subsistence of the later Vedic people. The Vedic people continued to produce barley, but during the later Vedic period rice and wheat became their chief crops. In subsequent times, wheat became

the staple food of the people in Punjab and western UP. For the first time, the Vedic people became acquainted with rice in the doab, called *vrihi* in the Vedic texts, and remains of it recovered from Hastinapur relate to the eighth century BC. Rice was also grown at Atranjikhera in Etah district at around the same time. The use of rice is recommended in Vedic rituals, but that of wheat only rarely. Various kinds of lentils were also produced by the later Vedic people.

Divorcing the Indus People: As the Vedic people got settled in the Indo-Gagetic Divide and the upper Ganga-Jamuna Doab, they quickly forgot their previous home, that is, the Pashtun country, Pothwar, and the western Punjab; in fact the whole Indus Valley. It was a repeat performance: they had also done so with their erstwhile home in Central Asia. The people of the Indus Valley were for them now the *Mleccha*, the unpure, undesirable, uncouth, speaker of unintelligible speech, barbarian, etc. By the time of Mahabharata, the two cultures had become strangers to each other.

Mlechha first appears in SB 111.2.1.24. The passage narrates an episode wherein the Devas (the Vedic side) deprived the Asuras (probably the Indus side) of the Speech through a clever trick. "...... and the Asuras being deprived of speech were undone crying, *helayo, helayo*. Such was the speech which they then uttered - and he who speaks thus is a mleccha (barbarian). Hence let no Brahman speak barbarous languages, since such is the speech of the Asuras.Thus alone he deprives his spiteful enemies of

speech and whatsoever knows this, his enemies, being deprived of speech are undone." There are two other episodes in later literature in which the cheating of the Asuras of their speech is recounted. All three episodes dealing with a single theme seem to point to the same conclusion: that the devas somehow deprived the asuras or destroyed the language of the Asuras. The other point to be noted is the ban put on the language of the Asuras by the Devas. The brahmanas were not to speak this *mlecha* language which was the speech of the Asuras. This was one of the ways, as the passage itself says, of undoing the Asuras.

The etymology of the term *mlecha* (Skt.) and its Pali equivalent, *milakkhu,* is unknown. It is, however, not impossible that the terms were derived from *Meluhha*, a name by which the Harappans were known to the Mesopotamians. The new claimant for the ancient name of the Indus valley was *Aratta*. Mahabharata refers to Aratta in several places. The geographical position of the country is described thus: “Where these five rivers, viz. Satadru, Vipasa, the third Iravati, Candrabhaga and Vitashi flow and where there are piluforests and (where) Sindhu is the sixth to flow out, this country is called *Aratta ...”*

And “that (region) where these five rivers, emerging from the mountains flow, this Aratta (country) is called Bilhika where the Arya should not stay even for two days.”

The third verse says: “Aratta is the name of the country, Balhika is the name of the people and are generally called as Vasatis, Sindhus, and Sauviras.”

All the three verses clearly define the geographical area which was called by the name Aratta. This was the region through which the six rivers flowed, surprisingly omitting the name of Sarasvati the seventh, which together are referred to in the RgVeda as the *saptasindhava,* The people of this country were called Balhikas and were detested by the Aryans for some reasons. Any contact with these people was strictly forbidden to the Aryan, to the extent that he was not to spend even two days in this country and its people. That calling them by derogatory terms like Vasati, Sindhu or Sauvira may imply that these names had already assumed derogatory significance and that collectively they were called Balhikas.

Three regions of Balhika are identified as follows: Vasati, Greek *Ossadio*i, were settled in the region of the confluence of the Chenab and Sutlej with the Indus; Sindhu, within Sindh-sagar doab; and Sauvlra, with upper Sindh. A fourth region was *Madra* (or *Madraka*), an area around the present city of Sialkot in the Punjab. Broadly speaking this covers the region of the Indus Civilization in upper Indus Valley, and it is obvious that even during the time of Mahabharata, the differences in culture were predominant and the Aryan fear of cultural contamination alive, which means that the history was still not forgotten.

Some passages in Mahabharta gives the impression that the Aryan social rules were not enforced in the upper Indus Valley or observed strictly. Thus it was not considered obligatory by the people to hold on to a single occupation, as the concept of Varna implied. A Brahmin who visited this region found it to his dismay that "having become brahmin, a Balhika becomes kastriya, then (he became) *vaisya, sudra* and even a barber. Having become barber, he again became a brahmin and having become a twice-born, he became a dasa. In the same family one becomes brahmin and the rest followed other professions", and he concluded that “Gandharas, Madrakas and Balhikas are utterly thoughtless”. These probably are the impressions of a man who in his society was used to strict observance of caste system in which the caste of the person was decided by his birth and was

obligatory on him to to follow the profession of the family in which he was born. But evidently caste system was not observed in the country of Errata (the upper Indus Valley) where the individual was free to choose his profession and change it, if necessary, irrespective of the professions of the other members of family as well as those practiced by his forefathers. It is tempting not to see in this what was probably a custom of long-standing and perhaps a part of the ancient way of life inherited from the Harappans.

There is a lengthy conversation in Mahabharata between a brahman, a supporter of the hero of the epic, Arjuna, and a chieftain from Madra from the Indus Valley, who went there to support Arjuna also. The brahman at length taunts the Madra chief, describing the Madra women how they do their make up and shamelessly roam around the village streets, without covering their head. Another brahman also chimes in saying that the women of such and such area (around Multan) do the same and this was so disgraceful. In reply, the Madra chief replies that he was proud of his women, they were so beautiful and how well they keep up for the pleasure of their men. In fact, he longed to go back to his country and enjoy his women. It appears that cultural gap was already very wide but it would be an exaggeration to say that the dislike which the two sides had for each other still continues in the form of Hindu-Muslim parity. But, it is noteworthy that the cultural demarcation was along the same geographical lines that are represented by the political boundaries between Pakistan and India.

Concluding Remarks: In this chapter we focused on the socio-economic role of the argopastoral people who descended on the greater Indus Valley from the West and proved to be a powerful agent of cultural change. We do not know the identity of these tribes but, by proxy, they are represented by the Vedic branch of the Indo-Aryan peoples. Chronologically, we are talking about the time period which we can safely bracket between 1700 and 500 BC. The archaeological material from this time period presents a new cultural horizon that marks the beginning of a new culture in the greater Indus Valley. The hills of the west of the Indus hold the key to unlocking the secrets of this change.

The Indo-Aryans were a large body of people with considerable spread in their material culture, beliefs and dialects. At some stage, a subset of these people composed hymns and preserved them orally. We know these people as the RgVedic people. The preserved fruits of their literary efforts do not furnish any physical characteristics that can be employed to separate these people from the Indus people or other nomadic tribes which could be residing in the same area. They were neither a homogenous nor an exclusive group. Nor can they claim to be a microcosm of the Indo-Iranian cultures. The advent of the Vedic people does not represent a unique event in the history of Pakistan; raids and invasions from the west has been a normal state of affairs throughout its historic as well as prehistoric times. The Aryan communities were a part of the greater mass of the pastoral nomads that were crossing the Sulaiman mountains or descending the Bolan Pass into the Indus plateaus and plains. In some cases there was an overlap between their way of life and the Late Harappan cultures. In some pockets, the newcomers may have had retained their independent cultural base but in others a mutual acculturation took place.

In few other parts of the world have barbarian raids been as unreletting and as spectacularly successful as they have been in this land. The distinction with which history treats the Vedic people is only that they managed to compose a number of religious hymns and preserved some of them for their coming generations (6). Our emphasis in interpreting the history of the early postHarappan society therefore should shift from the centrality of Vedic people and their literary sources to that of a larger picture and a greater inclusion of archaeological data pertaining to the pre-Vedic culture. It

therefore requires a competence in examining both archaeological and literary sources and correlating the data where possible. It also necessitates the examination of the cultural ethos of these pastoral nomads in their places of origins.

The geographical distribution of new cultural material attributable to the inroads of these pastoral peoples lies within the region where the Harappans are considered to have lived. The newcomers who could harness the horse and ride on faster-driven carts dominated the scene and dictated the future trends of events. They surely gave the Indus people an impetus for a new beginning under a new social order. The manifestations of these fundamental changes were manyfold and, consequently, it is difficult to treat it as a single whole and it has to be seen in thematic, geographical, and chronological contexts. It is also difficult to work out a clear-cut chronology because the archaeological data is not precisely dated. The textural sources relate to only one ethnic group and the conclusions drawn from them is difficult to be applied universally.

The chief source of information on the early history of the Indo-Aryan people and their interaction with the post-Harappan Indus people is RgVeda, perhaps the oldest literary remains of the Indo-European language group. Later Vedas and other Vedic literature is useful for assessing the social structure of the Indo-Aryans and the 'Aryanized' Indus people in Punjab towards the middle of the first millennium BC.

During the time period under discussion, the Indus plains were inhabited by the postHarappan people who presumably had a highly developed technical tradition of agriculture while the less developed and comparatively less populated hilly flanks in the West generally subsisted on pastoralism with only marginal agricultural economy. Thus, the newcomers were entering an area which was not very much different from the subsistence conditions they were familiar with. When these people moved from the hills to the plains, they could not but take advantage of the available facilities in the local system and adapt themselves to the varying conditions of living available in these areas. They abandoned their pastoral ways of living and fully adopted the life of agricultural settlers in small rural units. An intense cultural interaction of the two communities must have ensued and a new hybrid culture must have begun to evolve. This give-and-take was obviously not one-sided. All in all, the newcomers introduced a new era, where the horse replaces the ass, the chariot the old-fashioned oxcart and the double-edged sword to the fighting capacity. The break-up of the old Indus order, as seen in different areas, did not lead to a discontinuity in human living, but it speaks of a change in socioeconomic organization from a pattern of organization that was reminiscent of the Harappan system to a diffused rural set-up where small communities reorganized themselves and evolved their own particular patterns. It is these multiple patterns that characterize the post-Indus phase in the Indus Valley under the impact of the immigrants, raiders, and colonizers from the West.

As might be expected of a people without cities, the early Aryans did not have an advanced technology even though their use of horses and chariots, and possibly of some better arms of bronze did give them an edge over their opponents. Their knowledge of metals seems to have been limited, The *Rigveda* mentions only one metal called *ayas* (copper/bronze). In view of the widespread use of bronze in Iran around the middle of the second millennium BC the word has been taken to mean bronze. Yet bronze objects assignable to the period of the *RgVeda* have not hitherto been found in any significant quantity at sites excavated in the Land of the Seven-Rivers. The evidence for the use of bronze on any considerable scale being slight, there is no archaeological basis for the view that the early Aryan bronze-smiths were highly skilled or produced tools and weapons superior to those of

the Harappans. Nor did the Rigvedic people possess any knowledge of iron.

What was the main contribution of the IndoAryans to culture in the wider sense of the word? The Aryans were not ‘civilized’ as compared to the remnants of great third-millennium urban culture which just ceased to exist. There is no characteristically Aryan pottery or special Aryan tools which would describe the Aryan culture in the archaeologist's sense. What gave these people their importance in world history was precisely their unequalled mobility due to the movable food supply in cattle, the horse-chariot for war, and ox-carts for heavy transport. Their chief achievement was the brutal demolition of barriers between the small, closed, and often decaying peasant communities that characterized the second millennium BC of the Indus Valley, giving the Indus people a second chance to built a civilization anew, with new values and new organizational basis. Because the traditional barriers, social and material, were demolished, the old isolation in small farming units and closed tribal communities was thereafter impossible. Techniques which had been closely guarded local secrets, became general knowledge. Aryans and the Indus people combined into new communities by regrouping, most likely with a newly developed Indus language that came to known as Sanskrit.

Somehow this primitive, or pre-modern, society of tribal herdsmen encroaching upon the descendants of the Harappans gradually learned about arable farming, assimilated or repulsed neighbors, discovered new resources, developed better technologies, adopted a settled life, organized itself into functional groups, opened trade links, endorsed frontiers, and eventually subscribed to the organized structures of authority which we associate with statehood. During the almost a millennium long gestation in Pakistan, the Vedic people took for their own whatever local technique suited them, and moved on. This knowledge, mainly agricultural, was eventually shared with the communities living in the IndoGangetic Divide and the Doab and this started an agricultural revolution there on a large scale. All in all, these recurrent and persistent intrusions of the pastoral nomads, as typified by the RgVedic people, had a negative impact on the economy of the Indus Valley. The devastation left in wake of Indo-Aryan intrusions was often irreparable for the people overrun. Many settlements were destroyed, their irrigation was methodically decimated, their pastures were appropriated, their cattle wealth was dispersed around, and their economic base was severely damaged. Consequently, the Indus people required a long time to recover from this wide-spread economic and demographic devastation. Since it took time to construct their economic base, the accumulation of surplus was delayed and so was the reconstruction of society. It was probably this reason that the Indus people needed almost a millennium to rebuild their cities and towns, like Taxila and Charade.

In this connection the difference between Aryan and Egyptian (and later Assyrian) invasions may be instructive. When the Egyptian Pharaoh had gained his loot, tribute, control of copper ore, or slaves for work on his projects, he went back. Unless wiped out completely, life in the locality invaded continued in much the old way. But after the he had passed over the old settlements, many of them too far out of the way and not worth the Pharaoh's while to invade, human society and human history began again. In the case of the Indo-Aryans, they did not go back and they continued their destruction for a long time. It is only when the Indus capacity to produce enough food was significantly reduced, the Aryans (and with them some Aryanized Indus people) left for greener pasture in the Indo-Gangetic Divide and further on to the Ganga-Yamuna plains.

All this, however, scarcely adds up to a convincing picture of the post-Harappan world and the role of the pastoral tribes from the West in it, let alone to any kind of understanding of the historical processes at work but as to the processes involved and the determining factors, let alone the critical

events, the sources are silent. They provide a few cryptic clues but no ready answers. Keeping the above in view, therefore, the perspective on the post-Harappan cultural mosaic in the second half of the second millennium and the first half of the first millennium BC. requires the student of history to keep in mind the earlier events such as the decline of the Harappan cities and the archaeological cultures which succeeded them in various parts of the greater Indus Valley.

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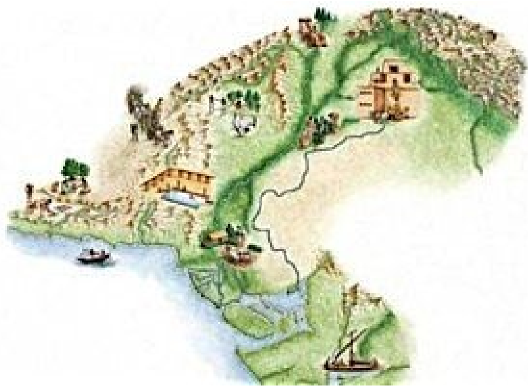
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Chapter 8

Indus Heritage



We have seen the manifest decline of the Harappan material culture in the first few centuries of the second millennium BC throughout the core area of the Indus Civilization as well as in its peripheries in the East. Still, this collapse of the Harappan Civilization could not have lead to the total eclipse of all the traits of this civilization and some of its features must have survived in the later cultural developments in Pakistan as well as in the adjoining areas of India. This aspect of the Indus Civilization is sometimes exaggerated to a point of absurdity but the fact remains that a faint shadow of the Indus culture is no doubt observable in the post-Harappan cultures, in some aspects even to the present time. For one, agricultural techniques, and the practices of rearing domestic animals, survived. For another, it is likely that the Harappan peasants would have retained their religious beliefs - the power of the mantras, the efficacy of the amulets, the antics of the shamans, even the system of social stratification on the basis of caste.The priests and shamans of the Harappan urban centers were part of a highly organized tradition and their traditions could have been transmitted to the post-Harappan cultures where it could have been transformed into the Brahmanical order. This is, however, not to say that the classical Harappan culture Harappan landscape, or that the Indian Civilization has its roots in the Harappan culture.

Mohenjodaro, Harappa, Chanhu-daro, Kalibangan, and other contemporaneous cities of the Indus Valley withered away for a variety of reasons. But what does their end mean in relation to

Hinduism originated in the and flourished in the postthe character of the cultural developments that followed? At the outset, there are two issues in the debate around this question that seem to be worth identifying. The first concerns the general characteristics of the successor cultures and whether they mark a departure or a devolution from the Harappan tradition. The second relates to whether the Harappan heritage, in any form, contributed to the cultural continuum that followed the demise of its urban phase.

Theseissueshaveattractedcomments from the time that John Marshall, in his first volume of the Mohenjodaro report, unhesitatingly drew a connection between the Harappan past and contemporary India, when he described the religion of the Indus people as being hardly distinguishable from that of living Hinduism (1). Like Marshall, Stuart Piggott believed that the Indus Civilization left behind an enduring and broadbased legacy. He argued that it was not merely in the religious sphere - where the growth in the power of the Brahmins over the Kshatriyas was seen as a blending of the ‘martial *RgVedic* tradition’ and the ‘priest-ruled Harappan Civilization’ - but in the political sphere as well. Conclusion: the Harappan culture endured. More specifically for Piggott, Chandragupta Maurya's state system supposedly contained within it many elements that were an integral part of the Indus

Civilization. These leads have been taken up by many historians, especially in India, who linked the heritage of the Harappan Civilization to everything from the weight system of early historic India to the sacred conch shell used as a trumpet in the *Mahabharata*. These chauvinistic tendencies, encouraged by the state as well as the academia, have greatly corrupted the archaeological history of India as well as of Pakistan.

The Arguments for Cultural Continuity: The problem of the Indus heritage essentially boils down to the answer to the question: how the Harappan Civilization came to its demise - was it an end of the civilization or was it merely a cultural transformation? Jarrige (2) interpret the end of the Harappa Civilization as a splintering into regional cultures; he even suggested a revival of some pre-Harappan ceramic traditions. In the same vein, Mughal based his opinion on his excavation at Jhukar: “A review of the archaeological and environmental data makes it clear that the Indus Civilization did not disappear suddenly or abruptly, as most writers have suggested in the past and who based their arguments on possible causes such as possible foreign invasions, outbreak of diseases, recurrent floods and depletion of economic resources.....However, it is evident that initially the Indus tradition continued to survive as indicated by the presence of Jhukar culture so far identified at Mohenjo-daro and excavated at Jhukar, upper levels of Amri, and Lohumjo-daro..... Even today, many Indus traditions continue to survive in art form and daily life of the people. For example, the use of shell bangles on the upper and lower parts of arms recalls the style of famous bronze dancing girl of Mohenjo-daro. The short-wheeled bullock carts of present-day Sindhi farmers are precisely identical in shape with those found at Indus culture sites.....Such examples demonstrate survival of several aspects of the Indus Civilization since the third millennium BCE that would link the past with the present and also future” (3). Mughal, however, completely ignored the evidence from Cholistan, which is to the contrary.

S.R.Rao (4,5) extended this thought to the connection of the Harappan Civilization to the later Indian urbanization through a doubtful connection between the Ochre Colored Pottery to the “Harappan” origins and then connecting OCP to Ganga-Jamuna oDab cultures through the Painted Grey Ware Levels at Hastinapur and the intervening Black-and-Red ware levels at Noh and Atranjikhera. Declaring unhesitantly that the whole gamut of the Ochre-Colored Pottery was inferior to Harappans (5), he stated: “There is a clear line of succession here” (4). According to him, on the whole, there was no cultural break but a continuous devolution and transformation over time. Moreover, it was these successor cultures in Gujarat and their links with chalcolithic cultures in Central India and Rajasthan that, Rao believed, would help to explain the existence of Harappan elements in subsequent Indian culture. It was precisely against this straight line of succession, through which Harappan elements were supposed to have survived and then again revived in historical India, that Ghosh outlined a series of objections (6).

B.B. Lal (7) attempts to show a cultural continuity between the Harappan and the postHarappan Indian cultures, presenting Bhagwanpura as a bridge between certain stages of the Indus and Ganges Civilizations. He, however, makes the concession: “But, as the commingling took place at a time when there was a relapse into the rural stage, the rural traits of the Harappan Culture, and of its ancestors and cousins, survived. This is seen for example, in the crisscross ploughing pattern of the fields, and *tandoors* (bread-making ovens) of the pre-Harappan levels at Kalibangan” (7).

Fairservis was one of those who believed that the later Indus cultures were a continuum of the Harappan Civilization (8): "the answer to the question as to why the Harappan Civilization fell is that

it didn't fall at all! It simply stood at the beginning of the mainstream of Indian culture and faded into that current, having brought to it acts of faith, class morality, aspects of technology, and perhaps a cosmology which heralded the eventual supreme achievement that was medieval India" (8).

Among the later scholars of the Indus Civilization, Kenoyer expresses a much stronger sentiments for a manifest Indus legacy in the later Indian cultures: “Scholars initially assumed that the decline of Indus urban centers resulted in a ‘Dark Age’ with an absence of urban centers and complex sociopolitical organization throughout the Indus and upper Gangetic region. A careful reevaluation of earlier work on the protohistoric settlements of the Indus Valley, combined with new excavations and surveys, is beginning to provide evidence for the continued existence of fairly large settlements and important legacies of the earlier Indus urbanism. Instead of a decline of urbanism, it might be better to characterize the chage as a localization of socioeconomic and political interaction” (9). And, “Certain distinguishing hallmarks of the Indus civilization disappeared. Others, such as writing and weights, or aspects of Indus craft technology, art, agriculture and possibly social organization, continued among the Late and post-Harappan cultures. These cultural traditions eventually became incorporated in the new urban civilization that arose during the Early Historical period, around 600 B.C” (10). He even sees the remnants of the Indus craft traditions in the present-day Pakistan:

“ Many of the traditional crafts in Pakistan retain some of the characteristic features of the earlier Indus crafts. Some of these features are due to the fact that the same basic materials are still available and that the most efficient techniques of manufacturing remain unchanged. For example, pottery manufacture, specifically the production of unglazed terracotta, involves basically the same technology as that used by the Indus artisans. Because of the fact that clay and fuel is available throughout the alluvial plain, this craft is carried out in every village and town. Much of the marketing of the ceramics is carried out on the basis of reciprocal exchange between the potters and the agriculturists, making it difficult to monitor the income or profit of the potters (10).”

“Faience manufacture is no longer practiced today as it was in the past, but the same basic technology has been incorporated into production of glazes that are used on ceramic vessels or on decorative tiles. Glazed ceramics and tile making require different skills and raw materials than terracotta pottery making, and the final products are generally more valuable. At the present time, and even historically, glazed ceramics and tiles have been produced in only a few specialized workshops, for example Hala and Multan. The knowledge of glaze manufacture and the careful control of firing temperatures has traditionally been kept secret, with different workshops specializing in specific colors and techniques.”

“Many other craft traditions of the Indus Civilization continue to be practiced in the bazaars of Peshawar, Lahore and Karachi. CopperBronze metal working, gold working, agate bead making and steatite amulet manufacturing. Although the finished objects being produced today are very different from those made in the Indus cities, many of the raw materials and techniques have remained unchanged. It is important to recognize that these crafts do not represent a stagnation in technology or science, but rather an optimum method of production using local materials and fuels. The simple terracotta water jar that was developed by the peoples of the Indus region provides freshly cool water without the need for refrigeration. These crafts represent a cultural heritage that has not been destroyed by the vagaries of hidstory (10)”.

By far, the most cogent treatment in favor of the cultural continuity is from F.R. Allchin (11).

“First, many of the crafts and technical skills which were flourishing at village level, and for which there would have been a continuing demand, would have persisted; while certain specialized urban or luxury crafts, including seal making, would have disappeared. The uniform system of weights and measures would almost certainly have gone as coherent systems, but must surely have left certain signs or convenient units of weight or measure in use. Many domestic aspects of the Indus lifestyle, the house plans, disposition of water supply, hearth and kitchen types, attention to bathing, etc. would survive in the settlements, and much could have been absorbed by newly arrived barbarian tribes. There would be a very wide survival of traits pertaining to ideology and religious belief, particularly of those which were in common acceptance and which involved domestic practice.”
“The religious beliefs of the Indus Civilization would have been maintained in several ways but most probably the traditions must have been passed on within the family, in much the way as it has continued to be in the region down to modern times. Through these channels the cult of sacred places, rivers or trees, of sacred animals, and of symbols or myths would have survived; as too might a large part of the cosmology, philosophy and other parts of the learned tradition”.
“It is still not possible to decide at what precise stage groups ancestral to the authors of the *RgVeda* arrived, but one believes that there was a period during which there was a general restlessness, and it may well be that a whole series of waves drifted into the Indus Valley and the Punjab over succeeding centuries. This, after all, has been a pattern which continued through the historical period also. It is not even necessary that all the groups should have been Indo-Aryan speaking, or even Indo-Iranian. But it may be imagined that the closer were the ties of language and ancestry between such groups, the more marked would have been their own solidarity, and the polarity between them and the indigenous Indus population”.
“Thus one can see that the survival and onward transmission of the Harappan legacy must have been at several different levels and of several different kinds. First, a widespread survival of the way of life among the common people particularly in the villages, in each of the main areas of settlement; and associated with this there would have been the survival of a series of little traditions in the several culture regions into which the peasant societies of Post-Harappan times devolved. With the removal of the urban authority the difference between the structure of village societies within and without the confines of the civilization would have been considerably re



A bullock cart in Sindh. Note the small and spokeless wheels, just like those displayed in the Harappan toycarts

duced, and roughly similar structures would appear throughout. At the same time there would be a tendency for older, distinctive, culture traits to reemerge regionally. Hence, in all these regions one may expect the Harappan legacy to be passed down at the folk level, and to spread with the continuing expansion of the peasant society. Indeed this was probably the time when the village assumed the dominant role in South Asian society which it has continued to occupy henceforward; so that while cities may have come and gone, the villages have survived with their own special lifestyle. But at this level the surviving elements would be mainly those appropriate for the folk or village society, and many others of distinctly urban character would tend to disappear".

"The period following the end of the Harappan cities was one of continuing eastward expansion of post-Harappan culture, now associated with an unprecedented growth of population. One may expect that already in the East (and for that matter the South) there were distinctive peasant societies in existence, each with its own cultural tradition, and thus the spread of the Indo-Aryan great tradition would have coincided with its encountering them. It is important to note that the cities which emerged later in the Gangetic plains were not the centers for the emergence of the early Indian tradition. This tradition was there before the cities, in the shape of the Vedic *Samhitas*, the accompanying schools of exegesis, and all that went with them; and also at the level of a more or less related series of little traditions, transmitted at the folk level. The new cities produced, however, a profound, even traumatic, reformulation of received tradition and ideology, and witnessed the development of Buddhism, Jainism and the other new "city" religious movements, notably Vaishnavism. But throughout this reformulation the prior existence of a tradition, from which to borrow and against which to react, can be clearly recognized. Thus while the life style of the Gangetic cities is also in many ways new, it

embodies an incalculably large element which is very old, and which survived in one way or another from the earlier cities of the Indus".

"To sum up the main points: The Harappan Civilization arose on the Indus soil as an organic process: it was not superimposed from outside, even if external stimuli may have contributed. Because of this there was already the necessary basis of continuity between the peasant and urban communities to permit the sort of persistence of the lifestyle which Robert Redfield remarked. An outward spread of peasant cultures from the Indus Valley had already begun in Pre-Harappan times, and the lifestyle spread with the continuation of that process both during the Mature Indus Civilization and after. Within the Early Indus and Mature Indus Civilization the tendency towards cultural convergence implies the emergence of a central ideology and learned tradition, and this one may call the Indus Great Tradition. In the north there was an appearance of Indo-Aryan speaking people even during the life of the civilization, and this permits one to postulate a degree of synthesis between the exponents of the Indus great tradition and those of the arriving folks. This process is of enormous significance in terms of the onward transmission of the legacy and of the translation of the Indus tradition into a unified culturally Indo-Aryan tradition. The end of the Indus Civilization appears to have been brought about by an upsetting of the delicate balance which maintained its social and economic life, and was probably linked with the abandonment at Mohenjodaro. The Indus legacy survived and was passed on most widely at the folk or village level, in almost all regions, while the learned tradition mainly survived in the Punjab, whence it spread eastwards with the spread of settlements in PostHarappan times. The surviving tradition, an amalgam of Indus and Aryan elements was already active before the reemergence of cities in the Ganges Valley and in North India more generally during the first millennium BC and onward as the ideological basis upon which the cities produced their own distinct ideology. Therefore, to paraphrase an old saying: if you seek a legacy, look about you".

Arbitrarily speaking, many aspects of the Harappan life are indeed found in the contemporary cultures of Pakistan and India. The typical Harappan house plan of a central courtyard surrounded by rooms seems to have continued tiull very recently. The binary system of Harappan weights: 1, 2, 4, 8, 16, 32, 64... 128, with fractions in one-third, is another example. Till recently, the Indian 1 seer = 16 *chattacks* and 1 rupee = 16 *annas* basically followed the same system. Even the *Arthasastra's angula (*17.86 mm) seems to have been derived from the Harappan measuring unit of 17.7 mm. Attention to bathing seems to have survived in Hindu culture. The techniques of making potter's wheel in modern India (the 'flywheel') and Pakistan (foot driven wheel) are similar to those used by the Harappans. Additionally, bullock carts and flat-bottomed boats used in modem Pakistan, especially in Sindh, are veery similar to those in the Harappan cities.

Counter Arguments: Other historians are deeply skeptical about the importance of the Harappan legacy and the extent of its contribution to later Indian cultures. For one, there is no obvious signs of a "cultural continuity" between the demise of the Harappan Civilization and the rise of chalcolithic villages across the Indus plains or across the borders in India. Second, there is long period of time between the end of the Indus urbanism and the rise of towns and cities in the Ganga-Jamuna plains. Third, the re-emergence of towns and cities in the subcontinent did not begin in the Gangetic plains, cities re-emerged first in the north of Punjab, in the so-called Gandhara country and these cities, such as ancient Taxila, had no cultural familiarity with any of the Harappan cities. These counter arguments are partially based on archaeological evidence.

Wheeler, and Ghosh and more recently Sharma (12), Ratnagar (13) and Thappar (14) have critically commented on the notion of cultural continuity from Harappan to the historic period. Wheeler is one of those who discounts any cultural continuity from the Indus Civilization to later Indian civilization. The sole paragraph that he devoted to this question in his immensely popular work, *The Indus Civilization,* made it reasonably clear that, as far as he was concerned, the Harappans did *not* contribute to the general development of later civilization in the way that Mesopotamia did in the West. A. Ghosh provided a more thoughtful and detailed critique (6) of the notion of a cultural continuity and criticized the idea of 'cultural gradients' that were believed to have moved down from Harappan times to the historical period. "Harappan urbanism could not have even remotely produced or inspired the historical urbanism", he argued, because there was no perceptible link between them. In the same way, it did not make much sense to "see SivaPasupati in the well-known and much-spoken-of seal of Mohenjo-daro, which depicts wild animals", since *pasupati* in later Vedic literature was an appellation used not for a general lord of the beasts but with specific reference to cattle. Ghosh's work was also concerned with the larger problem of the cultural identity of the chalcolithic cultures that followed the demise of Harappan urbanism. Ghosh argued against the idea that these cultures were transmitters of the Harappan legacy.

The continuation of the 'Late Harappan' sites in Ganga-Yamuna Doab and the occurrence of Ochre Colored Pottery (OCP) in the same region is sometimes offered as an archaeological evidence in support of the cultural continuity into later cultures. Not much can at present be said about the 'Late-Harappan' sites in the upper Ganga-Yamuna Doab but the derivation of the Ochre-Colored Pottery from the Late Harappan ware is definitely dubious (6). It is becoming increasingly doubtful that the pottery found at different and wide-apart sites was typologically and industrially identical to the Harappa, even the Late Harappan. Thus, all the scanty data at present available taken into consideration, the possibility of Harappan culture surviving or resuscitating in the upper Ganga basin through the 'Late Harappan' and Ochre-Colored Pottery sites in the middle of the first millennium BC may as well be rejected out of hand.

The Painted Grey Ware (PGW) and Northern Polished Ware (NBPW) cultures are also sometimes connected with the Harappan Civilization at the same time when these cultures are claimed to be the 'Aryan'. Again, it has practically no basis in fact. Stray elements of the Indus culture may have reached even the upper Ganga plains but they did not form its distinctive features.

These culture do not evidence great buildings, burnt bricks, bronze, urbanism, and writing, but they have their own characteristic pottery. Though one or two instances of burnt bricks of about 1500 BC are adduced, really fired bricks appear in north India around 300 BC in the phaseof the Northern Black Polished Ware culture. Similarly, once the Harappan culture ended, writing came into currency during the NBPW phase in the form of the Brahmi script. It was, however, written from left to right whereas the Harappan script was written from right to left.

The effective use of iron in the NBPW phase gave rise to a new socio-economic structure in the mid-Gangetic plains in the fifth century BC. However, neither iron nor coinage, which marked the NBPW phase, was characteristic of the Indus culture. Though some stray beads of the Indus culture reached the Gangetic plains, they cannot be considered an important Indus trait. Similarly, a few Harappan ceramic items and terracottas continued after 2000 BC, but these objects alone cannot represent the entirety of the mature Harappan culture.

Somehow Rangpur, a partially Late Harappan site in Gujarat, is figuring out prominently in these discussion. Here the Late Harappan culture is believed to have given way to a phase that was transitional which, in turn, gave rise to a period of which is dated to 1000-to-800 BC, thus bringing the end of Rangpur near the beginning of the historical period, so that the possibility of Harappan survival in the latter does not look remote. "It is only the resurgence of the Harappan culture in a new garb that we notice" (4). Furthermore, the Lustrous Red Ware in Gujarat has been thought to be due to a "mass movement (of the neoHarappans) from the Kathiawar peninsula to central India and the Deccan" (4). The implication of this belief - namely, the movement of Harappan elements into the heart of India - is obvious.

All the scanty data at present available taken into consideration, the possibility of Harappan urbanism surviving or resuscitating in the upper Ganga

basin through the Late Harappan and ochrecolored ware sites in the middle of the first millennium BC may as well be rejected. *A. Ghosh*

As Ghosh (6) has pointed out, the early period of Rangpur may be conceded to be a degenerate continuation of the Harappa culture (although the evidence is only marginal), but the later periods present a definite departure from the preceding phases. In these Periods the painted designs on pots are definitely non-Harappan, and the practice of burnishing pots with haematite was also new, unknown to the Harappans. The alleged continuity of pottery-types has not been convincingly demonstrated and is at best confined to a very limited number of types against a vast range of shapes found in these periods. Of the over one hundred graffiti occurring on the pottery of all periods of Rangpur, eighty have no parallels in the Indus culturte, and most of the remaining ones have elementary resemblances. It is therefore unjustified to claim that they suggest the survival of the Indus script (6).

The point is not to assess whether the early period of Rangpur was derived from the Harappa but to examine if the Harappan tradition could have in any way influenced and promoted the latter-day urbanism through Rangpur, central India and the upper Deccan, contact among which is provided by the Lustrous Red Ware, a supposed derivative or evolution of the Harappan ware. The answer should be clearly in the negative (6). It is now certain that there was a wide gap of seven to nine hundred years between the disappearance of these chalcolithic cultures and the emergence of the historic period in the regions of their occurrence, so that the chances of the former having anything to do with the latter are extremely remote. And even more remote, actually non-existent, is the likelihood of any Harappan urban tradition filtering through them into northern India, where the historical cities sprang up not earlier than 500 BC. Any belief to the contrary would involve the following assumptions, all of them unproven (6):

• Rangpur was a direct evolution from the urban Harappa;
• through Rangpur, Harappan urban tradition intruded into the rural chalcolithic cultures of Malwa and the upper Deccan; and
• this tradition lasted long enough in time and space to provide the stimulus for the establishment of cities in northern India in the early historical period, though the chalcolithic cultures themselves disappeared in the regions of their occurrence several centuries ago.

Furthersouth,twoHarappanelements have been hesitatingly recognized in the South Indian Neolithic-chalcolithic culture and vigorously presented as evidence: (a) the tradition of producing long

parallel-sided blades of chert by the crested-ridge-guiding technique; and (b) the practice of painting red pots painted in black.

The length of the blade would naturally depend on the availability of long or short silicious mineral cores out of which the blades were produced. Thus, the Harappans themselves produced short blades at sites away from the SukkurRohri quarry in Sind in addition to importing cores from that quarry when and where imports were possible. Long blades are absent in the chalcolithic equipment of central India due to the obvious reason of the absence of long cores in the region.The southern sites have long, medium and short blades, in addition to non-blades and asymmetrical and non-geometric tools, all produced out of local material to satisfy local needs. Any attempt to see Harappan traits in the long blades of the southern Neolithic, which produced other tool-types as well, is to ignore the factor of conditioning ecology (6).

Thoughitisfreelyconcededthatthe painted designs on the South Indian chalcolithic pottery has nothing in common with the Harappan ones and that the practice itself could have been derived from the chalcolithic cultures of central India and northern Deccan, the idea of black painting on red ware is equally freely assigned to the Harappan tradition. To say that the Neolithic folk adopted the Harappan tradition of painting pots but not the potter's wheel is to give away the show; surely, if there was any borrowing at all, it would have been of the technology of the potter's wheel rather than of the tradition of pot-painting (6). Furthermore, the evidence of any Harappan contacts with South India is not talked about beyond the possibility that the Harappans derived their gold from Mysore, thus indicating Harappan contacts with the South, though it is admitted thatthat the metal was available to the Harappans within the Harappan core area and the peripheries to the West. All in all, the central and southern Neolithic cultures have no possibility of evolving into urban centers under the influence of the Harappan legacy. As Wheeler has aptly remarked: 'Civilization came to central India with a bang.' (15).

Ratnagar Speaks: A vigorous critique of the cultural continuity between the Harappan and the later post-Harappan cultures in Pakistan and the Neolithic-Chalciolithic cultures of India comes from Shereen Ratnagar (13):

“Like the Minoan and Mycenaean civilizations and that of southern Turkmenia, and in contrast to the Great Traditions of Mesopotamia and Egypt, the Harappan tradition did indeed come to an end. If we examine the nature of the succeeding cultures, we find a contrast that is too great to allow us to make a case for lineages of tradition and continuity”.

“As the entire Harappan population was not wiped out, not every one of its cultural elements was necessarily obliterated. My point is, however, that what we call the Harappan Civilization did not endure in a form recognizable as Harappan, or as a Great Indus Tradition, to the archaeologist. By civilization we do not mean this or that pottery or the aesthetic quality of artisanal production, but a nexus of interrelated elements that co-occur in site assemblages and represent the political and economic structure of a state with urban centers, and with social stratification, however inchoate. Problems arise, however, because of the persistence of certain Orientalist ideas about the unbroken cultural continuities of South Asian history. Such views insist that ours is a great land of tradition (as opposed to a past replete with change, volatility and dynamism): analyses of Indian culture must deal with religion more than technological discoveries. An interesting instance of the persistence of ideas about unchanging India is B. Allchin's study of the carnelian bead industry over the ages (16). Allchin

describes its origins as a specialized, urban, Harappan craft. She shows that carnelian bead manufacture is thereafter evidenced only around 200 BC (that is, a thousand and five hundred years later), at Ujjain. The authority cited on bead production at Ujjain (17) specifies, among the aspects of manufacture, the placing of bead blanks in jars stopped tight with agate pebbles; and the slow heating of these jars on channelled furnaces, the channels lined with clay and filled with charcoal and dung fuel. These features do not occur in Harappan bead production workshops, to my knowledge. The beads from Ujjain are small, and the long carnelian bead was not produced after the Harappan period, nor yet micro-beads of steatite. Yet for Allchin the Harappan tradition persisted not only into the iron age at Ujjain, but also into the twentieth century."

"Chakrabarti and Lahiri (18) have found that 'the basic techniques of the Indus coppersmiths have continued to this day', especially those of vessel making. We could ask, however, whether there exists a wide choice of techniques for cold hammering and raising of copper and bronze. The precise similarities are not enumerated and in any such situation we can always ask whether it is truly a line of tradition, or technological parameters, that account for similarities between prehistoric and present times."

"Consider next a material like ivory, the carver's delight because of its density and its hardness suited to take detail, but not too difficult to cut (being less than 3 on Mohs' scale). Its organic content enables it to retain a certain elasticity and to acquire an exquisite sheen when polished. Mackay (19) remarked that at Mohenjodaro ivory was much more commonly used than bone, even for humdrum things like *kajalsticks*, gamesmen, pins and awls, as well as carved plaques and 'divination sticks'. Yet ivory appears to have been as insignificant in the postHarappan cultures after 1800 BC as it had been in pre-Harappan Mehrgarh".

"At Lothal (20), 40 artifacts of ivory and a piece of ivory tusk are catalogued. Among these only 2 items come from Period B or level V, which is post-Harappan. At Chanhu-daro all the carved ivory pieces - pins, combs, pegs, etc.,- as well as a large tusk, come from Harappan and not Jhukar levels. True, in the lowest levels at post-Harappan Pirak in the Kacchi a piece of elephant tusk had been found, but it was only later, after about 1100 BC, that ivory artifacts were found there (21)".

"A contrast to ivory is provided by the case of faience. Exquisite products of that craft displayed in the Ropar Museum, for example, come from the post-Harappan Bara culture. Faience appears to have been a craft that survived - indeed, flourished - in the immediate aftermath of the Bronze Age. This intriguing factor demands investigation. Jaya Menon (22), in her exploration of the diverse methods employed in the craft, does not give bronze tools pride of place. Copper oxide could be used as a colorant, and perhaps some sharp-pointed tools were necessary for decoration of beads or bangles. Thus it may be - and this is a tentative suggestion - that the posturban chalcolithic cultures, though lacking substantial bronze industries or metal tool kits for craft production, could continue to produce faience ornaments".

"Contrasts are also provided by objects of everyday use like the ubiquitous 'terracotta cakes' of Harappan sites. These are normally flat and triangular, but round nodules were also made. They were used to pave bathroom floors and keep the feet free of mud; to pave courtyards, and also to pack fireplaces to hold in the heat. At Pirak in the Kacchi, from 1700 BC onwards, household fireplaces, however, were packed not with terracotta cakes but with (by now cracked) stone pebbles. At nearby Nausharo, terracotta cakes are evident only in Harappan levels, not those either below or above."

“The seals are also revealing. Many scholars have remarked on the use of seals in postHarappan times. In Harappan seals we see some instances of par excellence of verbal and nonverbal communication, and their counterparts from the Jhukar culture that followed at Chanhudaro. Both sorts may have been used for stamping, but they are worlds apart. The seals of the later period carry incised lines or dots; there is no modeling or depth, no figurative depiction, no writing. Clearly a qualitative change had occurred in the level of communication. So also, at Lothal phase V the seals, Rao (23) says, had shallow engraving and it is 'doubtful if [they] were used at all for sealing packages'.”

“We will not dwell at length on the scarcity of bronze tools or precious metal ornaments or glazed steatite work in the later cultures. Let a few odd instances suffice. At post-urban Lothal, period B, there is no Rohri chert: local jasper was used in the last period for stone tools. The following tabulation of bead counts at Lothal is also revealing. Of a total of 24 faience items other than beads catalogued in the Lothal report, including miniature containers, buttons, bangles, and ear ornaments, only 4 come from phase V. For copper/bronze artifacts the figure is 5 items of the B period out of a total of 111 bronzes excavated (23). At Rangpur (5) in level II A (Mature Harappan) there were 4,916 steatite and 73 faience beads; the figures fall to 8 and 8 respectively in the following, Rangpur II B- C period that represents the post-urban chalcolithic culture. In Kathiawad, we have seen, in spite of the absence of dramatic abandonments, raids, and secreted hoards, there is evidence of the end of Harappan craft traditions.”

“Let us now consider domestic architecture. A house is the physical space in which a family lives and works as a family; houses separate families from one another even as they join them when constituent families of a group build similar houses. In different cultures gender differences or familial divisions of labour can be reflected in house form, as also customs of cooking and eating (together or singly, in seclusion or in view of others). As Tuan (24) put it, 'the building is the primary text for handing down a tradition, for presenting a view of reality'. Tuan goes further to suggest that architecture communicates ideas more effectively than does ritual. Moreover, even minor matters such as room size are heavily culture-specific as argued by Fletcher (25). Surely, therefore, the transformation of the dwelling from a thick-walled, multi-roomed structure with open courtyards of the Mohenjo-daro or Chanhu-daro type to the one-room mud or mud brick hut of the last occupation of Dholavira or Lothal (20) is enormously significant.”

“It is also pertinent that street drainage did not survive Harappan culture. At Lothal, during the last Mature Harappan occupation (IV), there were encroachments of houses into streets, no street drains, 'rickety houses on the Acropolis' (20), the warehouse was in disuse, and so on. New cultural forms and practices marked the post-urban occupation of Period V. No sealings (pieces of clay impressed with seals) were found in level V (there were 91 of these in the lower levels) (23). Perhaps also important is the fact that level V deposits cover only the eastern part of the site. Scored goblets in large number were also missing at Lothal (20). There were cultural changes in other directions, too,in Kathiawad. The Harappan period is marked by very few settlements. Thereafter, the towns of Rangpur and Lothal shrank in size, though there was an increase in the number of villages. In an analysis of changing settlement patterns through the ages in Kathiawad, Supriya Varma (26) found that Rangpur II B-C sites (1900-1500 BC in Rao's chronology) were no less than 140 in number, as against less than 20 Mature Harappan sites. A third of the sites of the later period were less than a hectare in extent, but the average size was over 4 ha (26). These sites were spread over the entire peninsula. In the next, Rangpur **III** period, there were, however, only 44 sites of average size, that is,

about 3 ha.1t is only in the later iron age that almost 200 sites can be counted for that region, which are on average about 7 ha in extent.”

“Inpost-HarappanKathiawadthereappears to have been a change in the crops being cultivated. From the rabi cereals of Harappan agriculture, the emphasis shifted to the coarse and hardy bajra and jowar, which are adaptable to long dry periods and poor soils. While Possehl (27) listed population increase, immigration (neither of these serious contenders) and crop choice as some of the possible reasons for the growth in the number of villages, he also referred to the sedentarization of hunters-and-gatherers in the post-Harappan period. Varma, however, places less emphasis on crops than on the agropastoral subsistence base as the major factor behind the

Thus the Harappan legacy is not its city life, but rural technologies or peasant science, knowledge that was within the control and experience of the ordinary household or village elements of culture that had been internalized and passed down generations within the family and the community.
(*Shereen Ratnagar***)**

swings in the number of villages. When, for diverse reasons, people invested more time and labour in their fields than in breeding animals, village life would prosper, but the reverse could also happen if environmental or cultural factors prompted people to invest in large flocks of animals. They would then be obliged to move with their animals in search of grazing areas and give less attention to their fields. In the perspective of Bhan (28), 'a tendency towards the development of settelite settlements' in the terminal Harappan period was succeeded by a proliferation of small and low mounds representing the activities of mobile pastoralists, in the rich pasture tracts of north Gujarat. Here Ratnapura, and Kanewal further south in the Bhalbaru tract, have a kind of 'mesolithic' character. Near Bhavnagar too sites like Nesadi may have been only seasonally occupied (29).”

ConcludingRemarks: While the end of the Indus Civilization generally and the Indus Age in particular is more or less taken for granted, the notion that Harappan culture elements like the bullock cart and method of bead manufacture are still with us is accepted equally unquestionably. Some would even take the remains of the Harappan religion for granted. It is probably this premise that has prompted some scholars, such as Shaffer (30), Possehl (31) and Kenoyer (32), to term

this momentous cultural change as *transformation,* even *Localization*. Possehl doubts that stratigraphic dead ends (the termination of a certain kind of material culture in the vertical sequence of a site) mean the end of tradition: “a state it was that died”, he argued in 1979, “not the Harappan Civilization or its pottery and other material constituents.” As a result, many archaeologists, especially in India, are now emphasizing that, just as in many areas of the world, there was a continuous series of cultural developments, without any cultural break, so was the cultural changes in the Indus Civilization a continuous process. These researchers emphasize the survival of Harappan traditions (disconnected ones, it may be noted), such as the bullock-carts, the binary-decimal system of measurement, the scored goblet, and the shape of the cooking vessel, the *hand*i.

The possible mechanism of the surviving and reviving forces has gained strength in recent years by the discovery of settlements of the ‘Late Harappan’ sites in Gujarat and in the upper Ganga-Yamuna Doab and have been increasingly being discussed since the new-found ultranationalism in India and the use of archaeology for serving the ‘national interest’. Increasingly strengthened Hindutva forces have also given an impetus to the studies of the post-Harappan cultures to see if some connections

could be found between the later Indian urbanization with the Harappan Civilization.

This interpretation of post-Harappan history is, however, a matter of debate. There are a number of scholars who do not subscribe to a cultural continuity in any shape or form between the Harappan and the early urbanization in India or a second urbanization in Pakistan. Ghosh and Ratnagar the most prominent among these scholars. The reader must have noted that in this chapter the approach we have taken is differs from that of Shaffer, Possehl, and Kenoyer. In contrast, we follow the line of thought of Ghosh, Ratnagar (13), and others. The argument advanced here is that the Harappan Civilization was not a 'vultural transformation' and that it did indeed come to an end. Certainly some pottery forms, oral traditions, village cults, and the rural sciences of land use entailing knowledge of seed types, animal behavior, did not go into oblivion. But however many such elements we count as 'survivals', they are not tantamount to an integrated Bronze Age political economy. Certainly, it is the state that died but the Great Indus Civilization died as well. There is nothing peculiar with the Indus Civilization; "civilizations are borne, they also die" (13).

As Ratnagar has noted (13), the Harappan legacy is not its city life, but rural technologies or peasant science, knowledge that was within the control and experience of the ordinary household or village - elements of culture that had been internalized and passed down generations within the family and the community. The people and the technologies that cater to non-elite populations continued. The same applies to some basic religious beliefs, especially the elements of Mantra, animism, magic, supernatural power assigned to special treees, mountains, rivers, etc. It is in this context that we should approach the Indus legacy in the post-Harappan cultures.

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Chapter 9

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